

XI. *Revision of the Heterocerous Lepidoptera of the family Sphingidæ.* By ARTHUR GARDINER BUTLER, F.L.S., F.Z.S., &c., Senior Assistant, Zoological Department, British Museum.

Read April 6th, 1875.

[PLATES XC.-XCIV.]

THE extensive group of moths composing the family *Sphingidæ* has always been a favourite one, not only with Lepidopterists, but with all lovers of nature; its representatives surpass most of the other families of Heterocera in size, whilst in their speed and long-sustained flights they are equalled by no other group with which I am acquainted.

The highly specialized condition of some of the structural characters in this family has from time to time aroused a special interest in them: thus the complete resemblance which most of the *Macroglossinæ* bear to humming-birds, owing to the remarkable expanded anal tuft and their habit of poising over a flower whilst sucking the nectar through their long outstretched proboscides, have rendered them objects of peculiar attraction to the uninitiated, many of whom fancy them to be true humming-birds, and refuse to be convinced of their error. In the 'Naturalist on the Amazons' (vol. i. pp. 181-183), Mr. Bates tells us that the natives firmly believe that the moth changes into the bird just as the caterpillar into the moth; the resemblance between *Aellopus titan* and a humming-bird is so complete when upon the wing that he himself on several occasions shot the former in mistake for the latter. The *Chærocampinæ* are chiefly remarkable for their power of long sustained flight; there is, however, nothing extraordinary in their appearance in the perfect state; the *Ambulicinæ* and some genera of the *Chærocampinæ* have the anal segment of the abdomen in the males expanded at the sides, giving them somewhat the aspect of *Macroglossinæ* in this respect; the *Smerinthinæ* are often brilliantly coloured, and the antennæ of the males are pectinated, much as in some genera of the *Bombycidæ*. The remarkable genus of *Smerinthinæ*, *Lophostethus*, has the spines on the tibiæ marvellously developed. The object of these spines has yet to be discovered; I can only suppose that the larva undergoes its change to the pupa-state in very hard earth, and thus it becomes necessary for the moth to be provided with powerful weapons in order to effect its escape.

The *Acherontiinæ* have attracted much attention on account of their peculiar coloration, which has given rise to their popular name of Death's-head Moths; they possess

the power of emitting sounds much resembling the creaking of a boot. The manner in which these sounds are produced has been the subject of discussion amongst naturalists since the year 1742; this point, however, has been satisfactorily settled by Mr. Moseley ('Nature,' vol. vi. pp. 151-153), who has demonstrated the existence of a cavity in the head, which by the alternate action of elevating and depressing muscles is caused to serve as a pair of bellows, by means of which air is forced through the exceedingly short proboscis; this organ is thus converted into a small trumpet. The *Sphinginae* are remarkable for the length of their proboscides, in which respect they offer a striking contrast to the preceding subfamily. *Amphonyx cluentius*, as mentioned by Mr. A. R. Wallace in the 'Quarterly Journal of Science' for 1867 (p. 477), has this organ developed to the extraordinary length of $9\frac{1}{4}$ inches; and Mr. Wallace confidently looks forward to the discovery of a *Sphinx* in Madagascar with a proboscis 11 to 12 inches in length; his anticipation is based upon the fact that the nectaries of *Angraecum sesquipedale* vary in length from 10 to 14 inches, and must therefore in all probability be fertilized by some such hitherto undiscovered agent.

The first attempt at any thing like a comprehensive paper on the *Sphingidæ* was published in 1855 by Burmeister in the 'Abhandlungen der naturforschenden Gesellschaft zu Halle,' and was entitled "Systematische Uebersicht der Sphingiden Brasiliens;" it contained descriptions of new genera and species, and gave a list of the then known *Sphingidæ* of South America. This paper was followed in the succeeding year by the seventh volume of Mr. Walker's 'Lepidoptera Heterocera,' in which an endeavour was made to bring together the recorded species from all parts of the world; and, considering how little was then known respecting the family, there can be no doubt that this catalogue was the best that Mr. Walker ever produced. No attempt was made at classification; therefore it is not surprising that nearly allied species appeared in widely sundered genera. Still the omissions are not many, and, but for that indefatigable Lepidopterist Mr. W. F. Kirby, would probably, with a few exceptions, have still remained undiscovered. The next list of species appeared in 1857, in Horsfield and Moore's Catalogue of the Lepidoptera in the Museum of the East-India Company,' and added a few descriptions; it was followed two years later by a very careful paper by Dr. Clemens in the 'Journal of the Academy of Natural Sciences of Philadelphia' (2nd ser. vol. iv.), entitled "Synopsis of North-American *Sphingidæ*." This communication was full of valuable information; and for the first time an effort was made to classify the genera and species; it was superseded, however, a few years afterwards by "A Synonymical Catalogue of North-American *Sphingidæ*, with Notes and Descriptions," in the fifth volume of the 'Proceedings of the Entomological Society of Philadelphia,' from the pens of those well-known and able Lepidopterists Messrs. Grote and Robinson. This was a most important paper, inasmuch as it revised most of the New-World genera, throwing them into natural subfamilies. In the same volume of the 'Proceedings' appeared several of Mr. Grote's papers on the *Sphingidæ* of Cuba, abounding with critical and interesting

notes on synonymy. In the volume for 1867 Mr. Grote gave a list of the *Sphingidæ* of Cuba; and, lastly, in 1873 he again appeared as the author of a "Catalogue of the *Sphingidæ* of North America," in the first volume of the 'Bulletin of the Buffalo Society of Natural Sciences.'

Dr. Boisduval's long expected work on the *Sphingidæ* has recently appeared, bearing date 1874; that it was not, however, procurable earlier than February 22nd, 1875, I have evidence in a letter from the author, dated 18th of February, 1875, in which he says "Le espèces des Sphingides, Sésiides et Castniides sera mis au vente *Lundi prochain*, chez M. Roret, éditeur, Rue Hautefeuille, à Paris." The entire work is full of errors; and scores of species are omitted; but the author's worst fault is a too great appreciation of his own MS. names, for which he does not scruple to sacrifice both genera and species long described by other authors. The arrangement of the genera is most unnatural; and many of the species described as new are only individually distinct. The new species described by M. Boisduval, excepting those which clash with my own, will be added in an appendix; the genera and species which are identical with new forms described in the present paper will be substituted, in their proper places, for the names which I had proposed to employ.

It will be seen by the foregoing remarks that the only synonymic (and that not a systematic) list of the *Sphingidæ* of the world is that published by Mr. Walker in 1856; this has now necessarily become very incomplete, not only on account of the numerous species subsequently described, but from our present much more perfect knowledge of the limits and affinities of the genera, which renders a revision of the whole family an absolute necessity.

I have to thank Mr. F. Moore for lending me his fine collection of Asiatic *Sphingidæ*, enabling me to add considerably to our knowledge of the species of India, as also for lending me some exquisite drawings of larvæ and pupæ by native Indian artists. I am also greatly indebted to Mr. G. Lewis for the loan of his valuable drawings of Japanese *Sphingidæ* in all stages, and for the residuum of his collection of these moths; also to Mr. W. F. Kirby for calling my attention to descriptions of species by Mr. Newman, to species described by Palisot de Beauvais, Van der Hoeven and Bertoloni, and to several species described during the last year or two, which I might otherwise have overlooked.

The following rough Table will give some idea of the geographical range of the various subfamilies and genera.

Subfamily 1. MACROGLOSSINÆ. (Cosmopolitan.)

Genus.	Range.	Number of Species.
1. <i>Lepisesia</i>	Confined to British North America	2
2. <i>Sataspes</i>	Silhet to China	4
3. <i>Hemaris</i>	Ranges from Texas, through Europe, Asia, and Africa	26
		32

Genus.	Range.	Number of Species.
4. <i>Rhopalopsyche</i> ..	Silhet to South India	2
5. <i>Macroglossa</i>	Throughout the Old World	41
6. <i>Aëlopus</i>	Tropical America and Africa	6
7. <i>Stenolophia</i>	South Tropical America	1
8. <i>Eupyrrhoglossum</i> .	Pará to Mexico	2
9. <i>Perigonia</i>	Tropical America	9
10. <i>Pachygonia</i>	Tropical America	4
11. <i>Rhodosoma</i>	North India	1
12. <i>Thyreus</i>	United States	1
13. <i>Amphion</i>	United States	1
14. <i>Deidamia</i>	North America	1
15. <i>Unzela</i>	Tropical America	1
16. <i>Proserpinus</i>	Ranges from Europe, through Russia, into North America	4
17. <i>Euproserpinus</i> ..	California	1
18. <i>Temnora</i>	Natal and (possibly) China	2
19. <i>Lophura</i>	South America, Asia, and Africa	11
20. <i>Calliomma</i>	Confined to Tropical America	8
21. <i>Enyo</i>	Tropical America and (possibly) Australia	5
22. <i>Aleuron</i>	Tropical America	3
23. <i>Tylognathus</i>	South Tropical America	2
24. <i>Gonenyo</i>	Tropical America	1
25. <i>Hemeroplanes</i> ..	Tropical America	4

Subfamily 2. CLEROCAMPINÆ. (Cosmopolitan.)

1. <i>Acosmeryx</i>	North India to Queensland	5
2. <i>Otus</i>	From Siberia, through North America, to the West Indies	5
3. <i>Ampelophaya</i> ..	China and Japan	1
4. <i>Elibia</i>	North India	2
5. <i>Pergesa</i>	From Europe, through Asia and Africa	15
6. <i>Panacra</i>	Asia and Africa	17
7. <i>Cizara</i>	Australia	1
8. <i>Microlophia</i>	South India	1
9. <i>Basiothea</i>	Africa	1
10. <i>Gnathostypsis</i> ..	Caffraria	1
11. <i>Diodosida</i>	Africa	4
12. <i>Cypa</i>	Ceylon	1
13. <i>Chærocampa</i>	Cosmopolitan	78
14. <i>Darapsa</i>	Haiti	1
15. <i>Deilephila</i>	From America, through Europe, Asia, and Africa	22
16. <i>Daphnis</i>	Europe, Asia, Moluccas, and Australia	9
17. <i>Philampelus</i>	Tropical America and Africa	19
18. <i>Pachylia</i>	Tropical America	5

Subfamily 3. AMBULICINÆ. (America and Asia.)

1. <i>Ambulyx</i>	Tropical America and Asia, from Darjeeling to Java	23
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Subfamily 4. SMERINTHINÆ. (Cosmopolitan.)

Genus.	Range.	Number of Species.
1. <i>Metamimas</i>	Amboina and Australia	2
2. <i>Mimas</i>	Europe, Asia, and South Africa	3
3. <i>Polyptychus</i>	Asia and Africa	7
4. <i>Lophostethus</i>	Natal	1
5. <i>Sphingonæpiopsis</i> .	Caffraria	1
6. <i>Langia</i>	India	2
7. <i>Triptogon</i>	America, and from Mantchuria, through Japan and China, into Java and India, and thence into Persia	23
8. <i>Laothoë</i>	Europe	2
9. <i>Cressonia</i>	North America to Texas	3
10. <i>Paonias</i>	United States	2
11. <i>Calasymphobolus</i> . .	North America and Amur	5
12. <i>Smerinthus</i>	Mexico to California and China, through Japan and Amur to Europe . .	5
13. <i>Pseudosmerinthus</i> .	South-west Africa	2
14. <i>Daphnusa</i>	China to Borneo	3
15. <i>Leucophlebia</i>	Java to Bengal	4
16. <i>Basiana</i>	Asia and Africa	9
17. <i>Cœquosa</i>	Australia	1

Subfamily 5. ACHERONTINÆ. (Europe, Asia, and Africa.)

1. <i>Acherontia</i>	From Europe into Africa, and through Persia into Asia	4
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Subfamily 6. SPHINGINÆ. (Cosmopolitan.)

1. <i>Tutoglossum</i>	South America	1
2. <i>Amphonyx</i>	Tropical America	6
3. <i>Anceryx</i>	Tropical America	2
4. <i>Isognathus</i>	Tropical America	9
5. <i>Cautethia</i>	Haiti and (possibly) "East India"	? 2
6. <i>Dilophonota</i>	Tropical America	11
7. <i>Oryba</i>	South America	1
8. <i>Macrosila</i>	South America	2
9. <i>Protoparce</i>	Cosmopolitan	23
10. <i>Pseudosphinx</i> . . .	Tropical America, Moluccas, and India	6
11. <i>Daremma</i>	United States	1
12. <i>Syzygia</i>	Central America	1
13. <i>Dolba</i>	North India, and Massachusetts to Mexico	3
14. <i>Euryglottis</i>	Colombia	1
15. <i>Diludia</i>	Asia, Australia, Africa, and Tropical America	21
16. <i>Hyloicus</i>	From America, through Europe, Asia, and Africa	9
17. <i>Sphinx</i>	America and Europe	17

Genus.	Range.	Number of Species.
18. <i>Lintneria</i>	United States	3
19. <i>Ceratonia</i>	Massachusetts to Mexico	2
20. <i>Nephele</i>	Australia, Asia, and Africa	18
21. <i>Calymnia</i>	North India to Java	1
22. <i>Ellema</i>	United States	3
23. <i>Lapara</i>	Canada	1

The remaining genera, being doubtful *Sphingidæ*, need not be considered.

The species which has the greatest range is *Chærocampa celerio*. This insect is found throughout the Old World; it is very rapid and indefatigable on the wing, and is not unfrequently caught on board ship out of sight of land. Its food-plant is the vine.

Characters of the Subfamilies.

1. MACROGLOSSINÆ.

Larva with the anterior segments tapering towards the head, retractile; horn long and curved; head rather small.

Imago generally with externally angulated palpi; the antennæ often gradually thicker from the base to the apex; thorax large and prominent; abdomen of the male always with a more or less developed anal tuft of hair-scales.

2. CHÆROCAMPINÆ

Larva with the anterior segments retractile, the fifth somewhat abruptly broader; the fifth, and sometimes all the segments laterally ocellated; horn variable; head rather larger.

Imago generally with externally rounded palpi, the antennæ generally rather slender; eyes salient; thorax large and prominent; abdomen without an anal tuft.

3. AMBULICINÆ.

Larva with the anterior segments non-retractile, tapering slightly towards the head, which is abruptly rather larger and rounded; horn oblique, not curved, but slightly pointing upwards at the tip; a series of lateral oblique stripes.

Imago with externally rounded palpi, the antennæ slender in both sexes; eyes salient; thorax rather short; abdomen of the male produced behind, with lateral angular expansion.

4. SMERINTHINÆ.

Larva rugose, with the anterior segments tapering towards the head, which is abruptly and decidedly larger, flattened in front, and angular above; horn straight.

Imago with the head and thorax short and broad; palpi small, antennæ of male more or less pectinated.

5. ACHERONTINÆ.

Larva thick, clumsy, *Sphinx*-like, but with the horn always more or less recurved at the tip, and tuberculated or granulose.

Imago clumsy; legs, antennæ, and proboscis thick, the latter very short; head, thorax, and abdomen short and broad.

6. SPHINGINÆ.

Larva with the anterior segments very slightly smaller than the posterior, generally marked with oblique lateral stripes; horn (when present) rather long; head tolerably large; position of the larva in repose almost sigmoidal.

Pupa frequently with an external sheath for the proboscis.

Imago *Cherocampine* in form, but with the head generally smaller, the thorax variable in length; proboscis very long.

Subfamily I. MACROGLOSSINÆ.

Genus 1. LEPISIESIA, Grote.

1. LEPISIESIA FLAVOFASCIATA.

Macroglossa flavofasciata, Walker, Lep. Het. viii. p. 87. no. 3 (1856).

Lepisesia flavofasciata, Grote, Proc. Ent. Soc. Phil. vol. v. p. 39 (1865).

St. Martin's Falls, Albany River, Hudson's Bay (*Barnston*).

Type, B.M.

The above is certainly more nearly allied to *Hemaris* than to *Macroglossa*, and appears to be a well-marked genus.

2. LEPISIESIA VICTORIA.

Lepisesia victoria, Grote, Bull. Buff. Soc. Nat. Sci. ii. p. 147 (1874).

British Columbia (*Crotch*).

Genus 2. SATASPES, Moore.

Sataspes, Moore, Cat. Lep. East-Ind. Comp. i. p. 261 (1857).

1. SATASPES INFERNALIS.

Sesia infernalis, Westwood, Cab. Orient. Ent. p. 61, pl. 30. fig. 3 (1848).

Macroglossa infernalis, Walker, Lep. Het. viii. p. 95. no. 19 (1856).

Sataspes infernalis, Moore, Cat. Lep. E.I. Comp. i. p. 261. no. 597 (1857).

Silhet (*Stainsforth*), Nepal (*Whitely*), Coimbatore (*Walhouse*).

B.M.

2. SATASPES UNIFORMIS.

Sataspes uniformis, Butler, P. Z. S. 1875, p. 3. n. 1.

Var. *Sataspes infernalis*, Boisduval, Sp. Gén. Léop. i. pl. 10. figs. 1, 2 (1875).

Silhet (*Stainsforth*).

Type, B.M.

3. SATASPES VENTRALIS.

Sataspes ventralis, Butler, P. Z. S. 1875, p. 3. n. 2.

Sataspes tagalica, Boisduval, Sp. Gén. Léop. p. 278, pl. 10. figs. 3, 4 (1875).

Hong-Kong (*Bowring*), Silhet (*Stainsforth*).

Type, B.M.

4. SATASPES XYLOCOPARIS.

Sataspes xylocoparis, Butler, P. Z. S. 1875, p. 239, pl. xxxvi. fig. 1.

Shanghai, China.

Type, coll. F. Moore.

Genus 3. HEMARIS¹, Dalman.

Hemaris, Dalman, Vet. Akad. Handl. p. 207 (1816).

1. HEMARIS BOMBYLIFORMIS.

Sphinx bombyliformis, Ochsenheimer, Schmett. von Eur. ii. p. 182. no. 2 (1810).

Cephonodes bombyliformis, Hübner, Verz. bek. Schmett. p. 131. no. 1403 (1816).

Sesia bombyliformis, Stephens, Ill. Brit. Ent. Haust. i. p. 135. no. 2 (1828).

Macroglossa bombyliformis, Boisduval, Ind. Meth. p. 45. no. 369 (1840).

Sphinx fuciformis, Denis (nec Linnæus), Wien. Verz. p. 44. no. 1 (1775).

Sesia fuciformis, Fabricius, Ent. Syst. iii. 1, p. 381. no. 11 (1793).

Var. *Sesia milesiformis*, Treitschke, Schmett. von Eur. x. 1, p. 125 (1834).

Sphinx variegata, Manip. Ins. Taurin. p. 193.

Europe (*Becker*).

B.M.

2. HEMARIS FUMOSA.

Macroglossa fumosa, Strecker, Lep. Rhop. et Het. p. 93 (1874).

Albany.

Allied to *H. diffinis*; Grote believes it to be = *H. tenuis*, in which the scales on the pellucid area of the wings are still adherent.

¹ After wading through the long description of *Hæmorrhagia*, Grote and Robinson, I am still unable to distinguish it *structurally* from *Hemaris*; indeed the authors themselves seem doubtful as to the generic position of one species, *Sesia radians*.

3. HEMARIS PALPALIS.

Hemaris palpalis, Grote, Bull. Buff. Soc. Nat. Sci. ii. p. 145 (1874).

British Colombia (*Crotch*).

Allied to *H. tenuis*.

4. HEMARIS DIFFINIS.

Macroglossa diffinis, Boisduval, Sp. Gén. Lép. pl. 15. fig. 2 (1836).

Sesia diffinis, Harris, Cat. N. Am. Sph., Sill. Journ. vol. xxxvi. p. 308 (1839).

Hemaris diffinis, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 5, pl. 1. fig. 8 (1873).

Sphinx fuciformis, Smith and Abbot (nec Linnæus), Lep. Ins. Georg. vol. i. p. 85, pl. 43 (1797).

Canada West (*Bush*), United States (*Doubleday*), East Florida, Vancouver's Island
(*Lyall*). B.M.

Allied to *H. fuciformis*; the larva is described by Mead (Canad. Ent. ii. pp. 157, 158, 1870).

5. HEMARIS TENUIS.

Hemaris tenuis, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 4, pl. 1. fig. 6 (1873).

New York and Pennsylvania (*Strecker*).

6. HEMARIS THETIS.

Sesia thetis, Grote and Robinson, Trans. Am. Ent. Soc. vol. i. p. 3, pl. 6. fig. 36 (Jan. 1868).

Macroglossa thetis, Boisduval, Comp. Zool. Réc. p. 326 (1868).

Hemaris thetis, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 5, pl. 1. fig. 7 (1873).

California (*Lorquin*).

Closely allied to *S. diffinis*.

7. HEMARIS METATHETIS, n. sp.

Sesia axillaris, Butler (nec Grote), Ann. & Mag. Nat. Hist. ser. 4, vol. xiv. p. 366 (1874).

Texas (*Belfrage*).

Type, B.M.

This species was sent by Belfrage, labelled "*S. axillaris*, Grote and Robinson," which has led to my error; it differs in its smaller size, narrower and not dentated border, with other minor characters.

8. HEMARIS SIEBOLDI.

Macroglossa sieboldi, Boisduval in De l'Orza's Lép. Japon. p. 35. uo. 76 (1869).

Sesia whitelyi, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xiv. p. 367 (Nov. 1874).

♂ ♀, Hakodadi (*Stephens*); ♂, Japan (*Fortune*).

Type, B.M.

VOL. IX.—PART X. No. 2.—October, 1876.

4 A

The Japanese representative of *H. fuciformis*. M. Boisduval having described it as a *Macroglossa*, I unfortunately overlooked his description.

9. HEMARIS MANDARINA.

Hemaris mandarina, Butler, P. Z. S. 1875, p. 239, pl. xxxvi. fig. 2.

Shanghai.

Type, coll. F. Moore.

10. HEMARIS FUCIFORMIS.

Sphinx fuciformis, Linnaeus, Syst. Nat. i. 2, p. 803. no. 28 (1766).

Sesia fuciformis, Schæffer, Icon. Ins. p. 21 (1766-79).

Cephonodes fuciformis, Hübner, Verz. bek. Schmett. p. 131. no. 1404 (1816).

Macroglossa fuciformis, Children, Abstr. Gen. Lep. Eur. p. 29. no. 1 (1829).

Sphinx bombylifomis, Esper (nec Ochsenheimer), Eur. Schmett. ii. p. 180, pl. 23 (1777).

Sesia bombylifomis, Fabricius, Ent. Syst. iii. 1, p. 382. no. 12 (1793).

Europe (*Becker*).

B.M.

11. HEMARIS AFFINIS.

Sesia affinis, Bremer, Lep. Ost-Sib. p. 85, pl. iii. fig. 13 (1864).

Amur (*Druce*).

B.M.

Closely allied to the preceding species, but rather darker.

12. HEMARIS SAUNDERSII.

Sesia saundersii, Walker, Lep. Het. viii. p. 83. no. 7 (1856).

North India (*Stevens, Doubleday*).

Type, B.M.

This species is a complete link between the *H. fuciformis* group and *H. hylas*; the latter though different in aspect (owing to the narrow-scaled border of primaries), does not, so far as I can see, differ structurally from the other species of *Hemaris*.

13. HEMARIS VENATA.

♂, *Macroglossa venata*, Felder, Sitz. Akad. Wiss. Wien, xliii. p. 29. no 61; Reise der Novara, Lep. iv. tab. 75. fig. 6 (Nov. 1874).

Amboina.

Allied to *H. fuciformis*, but one third larger, the body longer, different in character.

14. HEMARIS RADIANUS.

Sesia radians, Walker, Lep. Het. viii. p. 84. no. 8 (1856).

Shanghai (*Fortune*).

Type, B.M.

Approaching *H. thysbe* in character.

15. HEMARIS ALTERNATA.

Sesia alternata, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xiv. p. 366 (Nov. 1874).

Hakodadi (*Whitely*).

Type, B.M.

16. HEMARIS AXILLARIS.

Sesia axillaris, Grote and Robinson, Trans. Am. Ent. Soc. ii. p. 180 (1868).

Hemaris axillaris, Grote, Bull. Buff. Soc. Nat. Sci. p. 6, pl. 1. fig. 9 (1873).

Sesia grotei, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xiv. p. 365 (1874).

Texas (*Belfrage*).

B.M.

17. HEMARIS MARGINALIS.

♂, *Hemaris marginalis*, Grote, Bull. Buff. Soc. Nat. Sci. p. 6, pl. 1. fig. 10 (1873).

Michigan (*Strecker*).

Section HÆMORRHAGIA, Grote¹.

18. HEMARIS THYSBE.

Sphinx thysbe, Fabricius, Syst. Ent. p. 548 (1775).

Sesia thysbe, Fabricius, Mant. Ins. i. p. 99 (1787).

Hæmorrhagia thysbe, Grote and Robinson, Proc. Ent. Soc. Phil. vol. v. p. 174 (1865).

Sphinx pelasgus, Cramer, Pap. Exot. iii. p. 93, pl. 248. fig. B (1782).

Sesia pelasgus, Harris, Cat. N.A. Sphing., Sill. Journ. xxxvi. p. 308 (1839).

Sesia cimbiciformis, Stephens, Ill. Brit. Ent. Haust. vol. i. p. 135 (1828).

Massachusetts (*Doubleday*); United States (*Milne*).

B.M.

19. HEMARIS RUFICAUDIS.

Sesia ruficaudis, Kirby, Faun. Bor.-Am. vol. iv. p. 303 (1837).

Hæmorrhagia ruficaudis, Grote and Robinson, Proc. Ent. Soc. Phil. vol. v. p. 175 (1865).

Canada West (*Bush*); United States.

B.M.

This species has been much discussed by Messrs. Grote and Robinson, who make the following statement (Proc. Ent. Soc. Phil. v. p. 175):—"Kirby's description presents too many points of difference with *H. gracilis* to allow us to refer that species as intended, while Mr. Walker evidently describes our species as intended by Kirby." Now although Walker included one example of *H. gracilis* with our examples of *H. ruficaudis*, it is impossible to say that he "evidently describes" that specimen. I believe myself that the Walkerian type (registered "United States") is referable to the present species. It might be considered the American representative of *H. fuciformis*; but it is in some respects more nearly allied to *Hæmorrhagia floridensis* of Grote and Robinson.

This may, perhaps, be a genus, the species being more densely scaled than in *Hemaris*, and having consequently a somewhat different aspect; on the whole, however, I prefer to regard it for the present as a section.

20. HEMARIS BUFFALOËNSIS.

Hemorrhagia buffaloënsis, Grote & Robinson, Ann. Lyc. Nat. Hist. New York, vol. viii. p. 437, pl. 16. figs. 18, 19 (1867).

Buffalo.

Very closely allied to, if not identical with *H. ruficaudis* of Walker (? Kirby); the body, however, seems greener in colouring, and the cell of primaries less open.

21. HEMARIS GRACILIS.

Hemorrhagia gracilis, Grote & Robinson, Proc. Ent. Soc. Phil. vol. v. p. 174, pl. 3. figs. 1, 2 (1865).

Trenton Falls, New York (*E. Doubleday*).

B.M.

This may at once be distinguished from even the most similar examples of *H. ruficaudis* (Kirby ?) Walker, by the straight inner edge of the external brown border of primaries, the more heavily scaled discocellulars, and the smaller hyaline patch on secondaries. Grote separates it as a distinct group under the name of *Chamæsesia* (Bull. Buff. Soc. Nat. Sci. i. p. 8, 1873).

22. HEMARIS FLORIDENSIS.

Hemorrhagia floridensis, Grote & Robinson, Ann. Lyc. Nat. Hist. New York, vol. viii. p. 439, pl. 16. fig. 20 (1867).

Florida.

Allied to *H. fuscicaudis*, but with the external margin narrower and not dentated; in *H. fuscicaudis* it is much more strongly dentated than in *H. thysbe*.

23. HEMARIS FUSCICAUDIS.

Sesia fuscicaudis, Walker, Lep. Het. viii. p. 83. no. 6 (1856).

Hemorrhagia fuscicaudis, Grote & Robinson, Proc. Ent. Soc. Phil. vol. v. p. 174 (1865).

Georgia (*Abbot*).

Type, B.M.

Unquestionably the finest species in the genus.

Section CEPHIONODES, Hübner.

(*Potidæa*, Wallengren.)

24. HEMARIS HYLAS. (Plate XC. figs. 4, 5.)

Sphinx hylas, Linnæus, Mautissa, i. p. 539 (1771).

Sesia hylas, Fabricius, Ent. Syst. iii. 1, p. 379. no. 3 (1793).

Cephonodes hylas, Hübner, Verz. bek. Schmett. p. 131. no. 1402 (1816).

Sphinx picus, Cramer, Pap. Exot. ii. p. 83, pl. 148. fig. B (1779).

Macroglossa kingi, Macleay, King's 'Survey of Australia,' App. p. 465. no. 167 (1827).

Sesiu cunninghami, Walker, Lep. Het. viii. p. 85. no. 10 (1856).

Macroglossa cunninghami, Schaufuss, Nunquam Otiosus, i. p. 22 (1870).

Var. *Macroglossa apus*, Boisduval, Faun. Ent. de Madag. p. 79. no. 2, pl. 10. fig. 4 (1833).

China (*Bowring, Harrington, Reeves*); Japan (*Whitely*); Moulmein (*Clerck*); Ceylon (*Wenham*); North India (*James*); Nepal (*Ramsay*); Moreton Bay (*Gibbons*); Australia (*Hunter*); Congo (*Curror*); West Africa (*Argent*); South Africa (*Angas*); Natal (*Gueinzus, Trimen*). B.M.

One of our Natal examples agrees very fairly with the figure of *M. apus*; it is, however, rather less like typical *H. hylas*. Mr. Lewis tells me that when *H. hylas* first leaves the pupa the primaries are covered with yellow scales; he found the larva feeding on *Gardenia*.

25. HEMARIS VIRESCENS.

Potidæa virescens, Wallengren, Kongl. Svenska Vetensk. Akad. Handl. v. no. 4, p. 17. no. 1 (1865).

East Caffraria.

Allied to *H. hylas*.

26. HEMARIS CROATICA.

Sphinx croatica, Esper, Eur. Schmett. p. 33, pl. 45. fig. 2 (1777).

Cephonodes croatica, Hübner, Verz. bek. Schmett. p. 131. no. 1406 (1816).

Macroglossa croatica, Boisduval, Ind. Meth. p. 32 (1840).

Sphinx sesia, Hübner, Eur. Schmett. ii. figs. 89 & 136 (1793-1827).

South-east Europe, Asia Minor, Armenia.

Judging from Hübner's figures alone, I should be satisfied that this was not a *Macroglossa*. The form of the antennæ in the figure seems to indicate a distinction from *Hemaris*; but I have recently examined two specimens in the collection of Mr. Herbert Sharpe, and I now feel convinced that Hübner rightly referred it to his ? genus *Cephonodes*.

Genus 4. RHOPALOPSYCHE, Butler.

Rhopalopsyche, Butler, P. Z. S. 1875, p. 239 (1875).

1. RHOPALOPSYCHE BIFASCIATA.

Rhopalopsyche bifasciata, Butler, P. Z. S. p. 239, pl. xxxvi. fig. 4 (1875).

South India (*Ward*).

Type, coll. F. Moore.

2. RHOPALOPSYCHE NYCTERIS.

Macroglossa nycteris, Kollar, Hügel's Kaschmir, iv. 2, p. 458, pl. 19. fig. 5.

Macroglossa volucris, Walker, Lep. Het. viii. p. 94. no. 16 (1856).

Silhet (*Doubleday*); North India (*Argent, Stevens*); Barrackpore (*Hearsay*). B.M.

Genus 5. MACROGLOSSA, Ochsenheimer.

Macroglossa, Ochsenheimer, Eur. Schmett. iv. p. 41 (1816).

1. MACROGLOSSA STELLATARUM.

Sphinx stellatarum, Linnæus, Syst. Nat. i. 2, p. 803. no. 27 (1766).

Sesia stellatarum, Fabricius, Ent. Syst. iii. 1, p. 380. no. 5 (1793).

Psithyros stellatarum, Hübner, Verz. bek. Schmett. p. 132. no. 1409 (1816).

Macroglossa stellatarum, Stephens, Ill. Brit. Ent. Haust. i. p. 133. no. 1 (1828).

Europe (*Becker*); Tripoli; Teneriffe; Turkey (*Loftus*); Syria (*Lowne*); North China (*Fortune*). B.M.

Mr. Moore has an example of this species from Scinde; I can find no constant character whereby to separate it from the European form.

2. MACROGLOSSA VACILLANS.

Macroglossa vacillans, Walker, Lep. Het. Suppl. i. p. 27 (1864).

Timor.

3. MACROGLOSSA AFFICTITIA.

Macroglossa afflictitia, Butler, P. Z. S. 1875, p. 240, pl. xxxvi. fig. 7.

Canara.

Type, coll. F. Moore.

4. MACROGLOSSA VIALIS.

Macroglossa vialis, Butler, P. Z. S. 1875, p. 240, pl. xxxvi. fig. 5.

Canara.

Type, coll. F. Moore.

5. MACROGLOSSA GYRANS.

Macroglossa gyrans, Walker, Lep. Het. viii. p. 91. no. 11 (1856).

North India (*Stevens*); Madras (*Elliot*); Ceylon (*Templeton*).

Type, B.M.

In Mr. Moore's collection from Kurnool, Neilgherries; also from Bengal and Ceylon.

6. MACROGLOSSA APPROXIMATA.

Macroglossa approximata, Walker, Lep. Het. Suppl. i. p. 27 (1864).

North Australia (*Elsey*).

Type, B.M.

Differs from the preceding species in the better-defined tawny spots on each side of the abdomen, the absence of the interrupted white band on preanal segment, and the less-defined transverse lines on primaries.

7. MACROGLOSSA MILVUS.

Macroglossa milvus, Boisduval, Faune Ent. de Madag. p. 78. no. 1, pl. 10. fig. 3 (1833).

Bourbon and Mauritius; Madagascar (*Peekover*).

B.M.

8. MACROGLOSSA FERVENS.

Macroglossa fervens, Butler, P. Z. S. 1875, p. 4, pl. i. fig. 3.

Canara (*Ward*).

Type, B.M.

9. MACROGLOSSA AVICULA.

Macroglossa avicula, Boisduval, Sp. Gén. Léop. p. 334 (1875).

Macroglossa avicula, Butler, P. Z. S. 1875, p. 240.

Java (*Argent*).

Type, B.M.

10. MACROGLOSSA BOMBYLANS.

Macroglossa bombylans, Boisduval, Sp. Gén. Léop. p. 334 (1875).

Macroglossa gilia, Walker, Lep. Het. viii. p. 93. no. 15 (1856).

North India (*Stevens*); Hong-Kong (*Bowring*).

B.M.

In Mr. Moore's collection labelled "Deyra Doon."

11. MACROGLOSSA PYLENE.

Macroglossa pylene, Felder, Sitz. Akad. Wiss. Wien, xliii. p. 29.

Amboina.

12. MACROGLOSSA TRISTIS.

Macroglossa tristis, Schaufuss, Nunquam Otiosus, i. p. 22 (1870).

China.

I believe this to be *M. bombylans* faded; if so, the name will take priority.

13. MACROGLOSSA TROCHILUS.

Psithyros trochilus, Hübner, Samml. exot. Schmett. ii. pl. 158. figs. 1-4 (1806).

Macroglossa trochilus, Walker, Lep. Het. viii. p. 90. no. 8 (1856).

Rhamphoschisma trochilus, Wallengrén, Svensk. Vetensk. Akad. Handl. vol. v. p. 17 (1863).

Rhamphoschisma fasciatum, Wallengrén, Kongl. Vet. Akad. Förhandl. p. 139 (1858).

Natal (*Gueinzinus*); South Africa (*Smith*); Cape (*Drège*).

B.M.

14. MACROGLOSSA TROCHILOIDES.

Macroglossa trochiloides, Butler, P. Z. S. 1875, p. 5. no. 6.

Sierra Leone (*Foxcroft*).

Type, B.M.

15. MACROGLOSSA GLAUOPTERA.

Macroglossa glauoptera, Butler, P. Z. S. 1875, p. 241, pl. xxxvi. fig. 9.

Ceylon (*T. Skinner*).

Type, coll. F. Moore.

16. *MACROGLOSSA NIGRIFASCIATA*.*Macroglossa nigrifasciata*, Butler, P. Z. S. 1875, p. 241, pl. xxxvii. fig. 3.

Ceylon.

Type, coll. F. Moore

17. *MACROGLOSSA BELIS*. (Pl. XC. figs. 6, 7.)*Sphinx belis*, Cramer, Pap. Exot. i. p. 147, pl. 94. fig. C (1779).*Macroglossu assimilis* (sic), Swainson, Zool. Ill. 2nd ser. vol. i. pl. 64 (1820).North India (*Stevens*); Canara (*Ward*).

B.M.

In my recent paper on new species of *Sphingidæ* I have regarded this merely as a variety of *M. passalus*, allied to my *M. proxima*; I am now, however, convinced that it is a distinct species. I hesitated to separate it at first, on account of Cramer's locality for *M. belis* being "China;" it is, however, quite possible that both species occur in China, and still retain their distinctive characteristics. They are not more nearly allied than other *Sphingidæ* inhabiting far more restricted regions; and in a revision of any group of animals I am satisfied that it is far safer to err on the side of too much subdivision than of too little, much mischief having arisen as regards the multiplication of synonyms through the incautious association of different-looking forms together; Mr. Moore received *M. belis* from the Himalayas.

18. *MACROGLOSSA LUTEATA*.*Macroglossa luteata*, Butler, P. Z. S. 1875, p. 241, pl. xxxvii. fig. 5.

Silhet.

Type, coll. F. Moore.

19. *MACROGLOSSA ALCEDO*.*Macroglossa alcedo*, Boisduval, Voy. de l'Astrolabe, Ent. p. 188. no. 2 (1832-1835).Dorey (*Wallace*).

B.M.

Nearly allied to *M. proxima*. It is badly described, inasmuch as the primaries have two indistinct broad shining lilacine fasciæ across them which are not mentioned; they are also chocolate-brown rather than black-brown; the orange band of secondaries is also dusky in the centre (a character not mentioned); and the anal tuft of abdomen is not varied with yellow, but terminates in a broad tawny band. The description is not quoted by Walker.

20. *MACROGLOSSA PROXIMA*.*Macroglossa proxima*, Butler, P. Z. S. 1875, p. 4, pl. i. fig. 1.Ceylon (*Templeton*); Canara (*Ward*); Silhet. Type, B.M.; Cambogia, coll. Moore.21. *MACROGLOSSA INTERRUPTA*.*Macroglossa interrupta*, Butler, P. Z. S. 1875, p. 242, pl. xxxvii. fig. 2.

Darjeeling.

Type, coll. F. Moore.

22. MACROGLOSSA PASSALUS.

Sphinx passalus, Drury, Exot. Ins. ii. p. 52, pl. 29. fig. 2 (1773).

Macroglossa passalus, Walker, Lep. Het. viii. p. 92. no. 12 (1856).

Shanghai (*Fortune*); Hong-Kong (*Bowring*).

B.M.

Mr. Moore has an example of what I believe to be a variety of this species from Penang.

23. MACROGLOSSA SITIENE.

Macroglossa sitiene, Walker, Lep. Het. viii. p. 92. no. 13 (1856).

Silhet?

Type, B.M.

Under this species Mr. Walker placed several examples of *M. belis*, several of a small species near *M. divergens*, and one specimen of *M. trochilus*; fortunately the type was marked.

24. MACROGLOSSA PYRRHOSTICTA. (Plate XC. fig. 8.)

Macroglossa pyrrhosticta, Butler, P. Z. S. 1875, p. 242, pl. xxxvi. fig. 8.

Shanghai.

Type, coll. F. Moore.

Bred in Japan by Mr. George Lewis.

25. MACROGLOSSA INSIPIDA.

Macroglossa insipida, Butler, P. Z. S. 1875, p. 242. no. 12.

Ceylon (*Skinner*).

Type, coll. F. Moore.

26. MACROGLOSSA CORYTHUS.

Macroglossa corythus, Walker, Lep. Het. viii. p. 92. no. 14 (1856).

Java (*Horsfield*).

Type, B.M.

A constant and tolerably well-marked species strictly confined to Java. Several other species were placed with it by Mr. Walker; and the labels to *M. corythus* and *M. gilia* were transposed in the cabinet.

27. MACROGLOSSA GILIA. (Plate XC. figs. 9, 10.)

Macroglossa gilia, Herrich-Schäffer, Samml. aussereurop. Schmett. pl. 23. fig. 107 (1850-1858).

Nearly allied to *M. corythus*, but all the markings of primaries darker and better-defined, the inner transverse bar filled in with blackish towards internal margin; secondaries with subcostal area (uniting with transverse band) orange; body rather darker; under surface of wings redder. Expanse of wings 2 inches.

Silhet (*Stainsforth*).

Type, B.M.

A local representative of *M. corythus*. We have two examples in the collection of the British Museum; it is in Mr. Moore's collection from Darjeeling.

The larva of *M. gilia* is white, speckled with green; the anterior segments, horn, a lateral longitudinal line, and seven oblique streaks between the spiracles (which are minute and orange) green. It feeds upon *Paderia fetida*.

28. *MACROGLOSSA CATAPYRRHA*.

Macroglossa catapyrrha, Butler, P. Z. S. 1875, p. 243, pl. xxxvi. fig. 6.

North India (*coll. Moore*); Ceylon (*Templeton*).

B.M.

29. *MACROGLOSSA OBSCURA*.

Macroglossa obscura, Butler, P. Z. S. 1875, p. 5, pl. i. fig. 2.

Java (*Horsfield*).

Type, B.M.

30. *MACROGLOSSA ORIENTALIS*, n. sp.

Allied to the preceding and to *M. sitiene*; primaries as in *M. fervens*, but larger and rather paler; secondaries as in *M. passalus*, but with the yellow band rather broader, clearer, and more sharply defined; body as in *M. belis*; wings and body below almost precisely as in *M. corythus*. Expanse of wings 2 inches 1 line.

Moulmein (*Clerck*).

Type, B.M.

31. *MACROGLOSSA DIVERGENS*.

Macroglossa divergens, Walker, Lep. Het. viii. p. 94. no. 17 (1856).

Ceylon (*Templeton*).

Type, B.M.

This species is intermediate in character between *M. sitiene* and *M. proxima*; it is in Mr. Moore's collection from Canara.

32. *MACROGLOSSA FARO*.

Sphinx faro, Cramer, Pap. Exot. iii. p. 165, pl. 285. fig. C (1782).

Macroglossa faro, Walker, Lep. Het. Suppl. i. p. 27 (1864).

Java (*Horsfield*).

B.M.

33. *MACROGLOSSA HEMICHROMA*.

Macroglossa hemichroma, Butler, P. Z. S. 1875, p. 243, pl. xxxvii. fig. 1.

Silhet.

Type, coll. F. Moore.

34. *MACROGLOSSA RECTIFASCIA*.

Rhamphoschisma rectifascia, Felder, Reise der Nov. Lep. iv. tab. 75. fig. 7 (Nov. 1874).

——— ?

Allied to *M. sitiene* and *M. imperator*; it more nearly approaches the latter. I can see no reason why this species should be separated from *Macroglossa*.

35. MACROGLOSSA SCOTTIARUM.

Rhamphoschisma scottiarum, Felder, Reise der Nov. Lep. iv. tab. 75. fig. 8 (Nov. 1874).

——— ?

36. MACROGLOSSA IMPERATOR.

Macroglossa imperator, Butler, P. Z. S. 1875, p. 243, pl. xxxvii. fig. 4.

Ceylon (*T. Skinner*).

Type, coll. F. Moore.

37. MACROGLOSSA HIRUNDO.

Macroglossa hirundo, Boisduval, Voy. de l'Astrolabe, Ent. p. 188. no. 1 (1832-35).

Taiti.

Possibly the variety of *M. errans* in which the transverse white band is interrupted; the description of *M. hirundo* was overlooked by Walker.

38. MACROGLOSSA ERRANS.

Macroglossa errans, Walker, Lep. Het. viii. p. 96. no. 20 (1856).

Moreton Bay (*Gibbons*); Australia (*Strange*).

Type, B.M.

The type is from Moreton Bay, and has the transverse band of primaries distinct and white.

39. MACROGLOSSA MICACEA.

Macroglossa micacea, Walker, Lep. Het. viii. p. 96. no. 21 (1856).

Moreton Bay (*Gibbons*); Australia (*Strange*).

Type, B.M.

The example described as the female of this species is quite distinct.

40. MACROGLOSSA NOX.

Macroglossa nox, Newman, Trans. Ent. Soc. 2nd ser. vol. iv. p. 54 (1857); Butler, P. Z. S. 1875, p. 5, pl. i. fig. 6.

Rockingham Bay (*Macgillivray*).

Type, B.M.

41. MACROGLOSSA ERATO.

Macroglossa erato, Boisduval, Lép. de la Californie, in Ann. Soc. Ent. Belge, xii. p. 65. no. 67 (1868).

Los Angeles (*Lorquin*).

Not like any other species; the primaries ashy grey, with a broad black border; several little transverse black lines at the base; secondaries white, with a very broad black border; fringes whitish; body black; pectus greyish white; palpi white.

Genus 6. AËLLOPUS, Hübner.

Aëllopus, Hübner, Verz. bek. Schmett. p. 131 (1816).

1. AËLLOPUS TANTALUS.

Sphinx tantalus, Linnaeus, Mus. Lud. Ulr. p. 21 (1764).

Sesia tantalus, Fabricius, Ent. Syst. iii. 1, p. 379. no. 1 (1793).

Aëllopus tantalus, Hübner, Samml. exot. Schmett. ii. pl. 157. figs. 1-4 (1806).

Macroglossa tantalus, Walker, Lep. Het. viii. p. 88. no. 4 (1856).

Sphinx ixion, Linnaeus, Syst. Nat. ii. p. 803. no. 26 (1766).

Sphinx zonata, Drury, Ins. Exot. i. p. 57, pl. 26. fig. 5 (1770).

Sphinx tripunctata, Goeze, Beytr. iii. 2, p. 216. no. 43 (1780).

Jamaica (*Gosse*); Haiti (*Tweedie*); St. Thomas.

B.M.

Mr. Walker confounded this with the next species in his Catalogue.

2. AËLLOPUS FADUS.

Sphinx fadus, Cramer, Pap. Exot. i. p. 95, pl. 61. fig. C (1779).

Sesia fadus, Fabricius, Ent. Syst. iii. 1, p. 378 (1793).

Macroglossa fadus, Walker, Lep. Het. viii. p. 89. no. 7 (1856).

Sphinx titan, Cramer, Pap. Exot. ii. p. 73, pl. 142. fig. F (1779).

Aëllopus titan, Grote, Proc. Ent. Soc. Phil. v. p. 41 (1865).

Macroglossum annulosum, Swainson, Ill. iii. pl. 132. fig. 1 (1823).

Venezuela (*Dyson*); Mexico (*Hartweg*); Brazil.

B.M.

3. AËLLOPUS BLAINI.

Aëllopus blaini, Herrich-Schäffer, Samml. auss. Schm. ii. fig. 553 (1869); Grote, Trans. Am. Ent. Soc. iii. p. 184 (1871).

Cuba.

4. AËLLOPUS SISYPHUS.

Macroglossa sisyphus, Burmeister, Sph. Bras., Abhandl. naturf. Gesellsch. Halle, p. 74 (1855).

Aëllopus sisyphus, Grote, Proc. Ent. Soc. Phil. v. p. 42 (1865).

Rio Janeiro.

5. AËLLOPUS COMMASIAE.

Macroglossa commasiae, Walker, Lep. Het. viii. p. 90. no. 9 (1856).

Sierra Leone (*Morgan*).

Type, B.M.

This species at first sight looks very like *M. tantalus*; but the primaries are destitute of hyaline spots, and the body has two segments blue-white instead of one segment snow-white.

6. *ÆLLOPUS HIRUNDO*.

Macroglossa hirundo, Gerstäcker, Arch. Nat. xxxvii. p. 360 (1871); Von der Decken's Reisen in Ost-Africa, Gliederthiere, p. 375, no. 30. Taf. xv. fig. 7 (1873).

September, 1862, Mombas (*Gerstäcker*).

Allied to *A. commasiæ*, but constantly differing in the clothing of the upper surface of the head, thorax, base of abdomen, and of the wings, which are greyish mouse-brown; the bands of the primaries are also not arranged in pairs, but are wide apart; the dorsal region of the abdomen has the third and fourth (not the second and third) segments banded with blue-white.

This species is also said to occur at the Cape.

Genus 7. *STENOLOPHIA*, Felder.

Stenophia, Felder, Reise der Nov., Lep. v. (1874).

STENOLOPHIA TENEBROSA.

Stenophia tenebrosa, Felder, Reise der Nov., Lep. iv. tab. lxxxii. fig. 3 (Nov. 1874).

——— ?

Very like *Perigonia glaucescens*, Walker; and (not having seen the insect) I am rather inclined to think it is a nearly allied *Perigonia* with the anal tuft rubbed off.

Genus 8. *EUPYRRHOGLOSSUM*, Grote.

Eupyrrhoglossum, Grote, Proc. Ent. Soc. Philad. vol. v. p. 42 (1865).

1. *EUPYRRHOGLOSSUM SAGRA*.

Macroglossum sagra, Poey, Cent. Lepid. Decade 2 (1832).

Macroglossa sagra, Walker, Lep. Hct. viii. p. 89. no. 6 (1856).

Eupyrrhoglossum sagra, Grote, Proc. Ent. Soc. Phil. v. p. 43 (1865).

Macroglossa harpygia, Schanfuss, Nunquam Otiosus, i. p. 22 (1870).

Brazil (*Doubleday*); Colombia (*Becker*).

B.M.

2. *EUPYRRHOGLOSSUM ? CECULUS*.

Sphinx ceculus, Cramer, Pap. Exot. ii. p. 80, pl. 146. fig. G (1779).

Psithyros ceculus, Hübner, Verz. bek. Schmett. p. 132. no. 1411 (1816).

Macroglossa ceculus, Walker, Lep. Het. viii. p. 88. no. 5 (1856).

Eupyrrhoglossum ceculus, Grote, Proc. Ent. Soc. Phil. v. p. 43 (1865).

Macroglossum fasciatum, Swainson, Ill. iii. pl. 132. fig. 2 (1823).

? *Macroglossa corvus*, Boisduval, Léop. Gnat. p. 66 (1870).

Pará (*Smith*); Brazil (*Doubleday* and *Mornay*); Mexico (*Argent*).

B.M.

Genus 9. PERIGONIA (Herrich-Schäffer), Walker.

Perigonia (Herrich-Schäffer), Walker, Lep. Het. viii. p. 100. gen. 5 (1856).

1. PERIGONIA GLAUDESCENS.

Perigonia glaucescens, Walker, Lep. Het. viii. p. 103. no. 5 (1856).

Haiti (*Tweedie*).

Type, B.M.

Somewhat similar to *Macroglossa tantalus*.

2. PERIGONIA DIVISA.

Perigonia divisa, Grote, Lyc. Nat. Hist. New York, vol. viii. p. 199 (1867).

Cuba (*Gundlach* and *Poey*).

3. PERIGONIA RESTITUTA.

Panacra restituta, Walker, Lep. Het. Suppl. i. p. 32 (1864).

Perigonia lusca (part.), Walker, Lep. Het. viii. p. 101. no. 1 (1856).

Mexico (*Hartweg*); Venezuela (*Dyson*); Pará (*Smith*).

Type, B.M.

In the 'Supplement' Mr. Walker retained the name of *P. lusca* for this species, re-naming the typical form *P. interrupta*.

4. PERIGONIA ILUS.

Perigonia ilus, Boisduval, Lép. Guat. p. 66 (1870).

"Honduras and Mexico" (*Boisduval*); ——— ?

B.M.

I should hardly call the primaries of *Perigonia* "sinuenses;" they are rather waved, but only slightly so. The present species may, I think, be a variety of *P. lusca*; I must confess my inability to discover its resemblance to *Thyreus abbotii*; it would even have been better to have compared it with *Lophura continua*.

5. PERIGONIA LUSCA.

Sphinx lusca, Fabricius, Sp. Ius. iii. p. 140. no. 5 (1781).

Perigonia lusca (part.), Walker, Lep. Het. viii. p. 101. no. 1 (1856).

Perigonia interrupta, Walker, Lep. Het. Suppl. i. p. 29 (1864).

Guatemala (*Sallé*); Haiti (*Tweedie*); Mexico (*Argent*).

Type, B.M.

There can be no doubt about the identification of this species; for Fabricius says, "Posticæ supra atræ, fascia magna fulva, quæ tamen marginem tenuiorem haud attingit. *Angulus ani cinereus, litura fulva*. Habitat in Americæ meridionalis insulis."¹

6. PERIGONIA LEFEBVREI.

Macroglossa lefebvrei, Herrich-Schäffer, Corr.-Blatt, 1863, p. 147.

Perigonia lefebvrei, id. Corr.-Blatt, 1865, p. 56.

Cuba (*Poey*).

Smaller than the preceding, with no orange spot at anal angle.

¹ The italics are mine

7. PERIGONIA STULTA.

Perigonia stulta, Herrich-Schäffer, Samml. aussereurop. Schmett. fig. 106 (1850-1858).

Cuba (*Poey*).

In this species the orange band of secondaries absorbs the entire base of the wing.

8. PERIGONIA ? DOTO.

Macroglossa doto, Schaufuss, Nunquam Otiosus, i. p. 21 (1870).

"Africa?"

If this is a *Perigonia* the locality is unquestionably wrong, as Dr. Schaufuss suspects (believing that Dr. Kaden, in the dark, labelled it with a blue ticket instead of a green one). The species is said to be allied to *P. stulta*.

9. PERIGONIA ? AFFINIS.

Macroglossa affinis, Schaufuss, Nunquam Otiosus, i. p. 21 (1870).

Venezuela.

Described as a variety of the preceding, and (according to what Dr. Schaufuss says) scarcely differing from it.

Genus 10. PACHYGONIA, Felder.

Pachygonia, Felder, Reise der Nov., Lep. v. (1875).

Allied to *Eupyrrhoglossum*. Primaries with the apex produced and excavated; inner margin deeply excavated below external angle (rendering the angle very acute). Palpi less strongly angulated. Antennæ comparatively rather shorter. Anal tuft of abdomen very broad, short, and dense.

Type *P. subhamata*.

1. PACHYGONIA SUBHAMATA.

Perigonia subhamata, Walker, Lep. Het. viii. p. 102. no. 4 (1856).

Perigonia caliginosa, Boisduval, Léop. Guat. p. 66 (1870).

Pachygonia caliginosa, Felder, Reise der Nov., Lep. iv. tab. 75. fig. 10 (1874).

Macroglossa gigantea, Schaufuss, Nunquam Otiosus, i. p. 20 (1870).

♀, Mexico (*Argent*); ♂, Venezuela (*Dyson*); Pará (*Bates*). Type, B.M.

Boisduval's descriptions will of course take priority over Felder's figures, excepting (as in the present case) when they are forestalled by those of other authors.

2. PACHYGONIA COFFÆÆ.

Perigonia coffææ, Walker, Lep. Het. viii. p. 101. no. 2 (1856).

Brazil (*Stevens*)

Type, B.M.

3. *PACHYGONIA ABBOTI*.

Macroglossa abboti, Schaufuss, Nunquam Otiosus, i. p. 21 (1870).

Colombia.

Seems to be nearly allied to *P. coffææ*.

4. *PACHYGONIA MAGNA*.

Perigonia magna, Felder, Reise der Nov., Lep. iv. tab. 75. fig. 12 (Nov. 1874).

——— ?

Possibly identical with the preceding; it comes better with *Pachygonia* than with *Perigonia*, although it may eventually have to be placed with *P. coffææ* in a new genus.

Genus 11. *RHODOSOMA*, n. gen.

Allied to *Perigonia*. Primaries elongate, triangular. Secondaries subtriangular, rounded at apex, subangulated at anal angle. Discocellulars of all the wings convex. Discoidal cell of secondaries very short. Head small. Palpi obtuse, conical in front. Antennæ long and slender. Thorax and abdomen very robust; the latter compressed, truncate behind, with small lateral and terminal tufts. Tibiæ of second and third pairs of legs terminating in two strong diverging spines.

Type *R. triopus*.

RHODOSOMA TRIOPUS.

Macroglossa triopus, Westwood, Cab. Orient. Ent. p. 14, pl. 6. fig. 4 (1848).

Silhet (*Stainsforth*).

B.M.

The type was described as from Assam.

Genus 12. *THYREUS*, Swainson.

Thyreus, Swainson, Zool. Ill. vol. i. pl. 60 (1821).

THYREUS ABBOTI.

Thyreus abbotii, Swainson, Zool. Ill. vol. i. pl. 60 (1821).

Brachynota abbotii, Boisduval, Lép. Guat. p. 66 (1870).

Georgia (*Abbot*); New York (*Doubleday*).

B.M.

Transformations described and larva and imago figured, Am. Ent. ii. p. 123, 1870; the larva is also figured by Scudder in Harris's 'Correspondence,' pl. iii. fig. 1 (1869), and by Packard in his 'Guide,' p. 276. fig. 203.

Genus 13. AMPHION, Hübner.

Amphion, Hübner, Verz. bek. Schmett. p. 135 (1816).

AMPHION NESSUS.

Sphinx nesus, Cramer, Pap. Exot. vol. ii. p. 16, pl. 107. fig. D (1779).

Amphion nesus, Hübner, Verz. bek. Schmett. p. 135. no. 1444 (1816).

Thyreus? nesus, Harris, Cat. N.-Am. Sph., Sill. Journ. vol. xxxvi. p. 308 (1839).

Trenton Falls (*Doubleday*); Orilla, Canada West (*Bush*).

B.M.

Genus 14. DEIDAMIA, Clemens.

Deidamia, Clemens, Syn. N.-Am. Sph. p. 137 (1859).

DEIDAMIA INSCRIPTA.

Pterogon? inscriptum, Harris, Cat. N.-Am. Sph., Sill. Journ. vol. xxxvi. p. 306 (1838).

Thyreus? inscriptus, Walker, Lep. Het. viii. p. 100. no. 4 (1856).

Deidamia inscripta, Clemens, Syn. N.-Am. Sph., Journ. A. N. S. Phil. p. 137 (1859); Grote, Bull. Buff. Soc. p. 20 (1873).

“Atlantic district” (*Grote*).

Mr. Grote queries this as the *Sphinx japiæ* of Cramer. I can hardly believe it to be that species; but if so, Mr. Walker's genus *Unzela* will take priority.

Genus 15. UNZELA, Walker.

Unzela, Walker, Lep. Het. viii. p. 161. gen. 18 (1856).

UNZELA JAPIX.

Sphinx japiæ, Cramer, Pap. Exot. i. p. 137, pl. 87. fig. C (1779).

Enyo japiæ, Hübner, Verz. bek. Schmett. p. 132. no. 1416 (1816).

Unzela japyx (sic), Walker, Lep. Het. viii. p. 162. no. 2 (1856).

Unzela discrepans, Walker, *l. c.* no. 1 (1856).

Cornipalpus succinctus, Felder, Reise der Nov., Lep. iv. tab. 82. fig. 6 (Nov. 1874).

Rio Janeiro (*Stevens*).

B.M.

For information respecting Cramer's locality for this species see Proc. Ent. Soc. Phil. vol. v. p. 192 (1865).

Genus 16. PROSERPINUS, Hübner.

Proserpinus, Hübner, Verz. bek. Schmett. p. 132 (1816).

1. PROSERPINUS ÆNOTHERÆ.

Sphinx ænothæræ, Fabricius, Sp. Ins. ii. p. 141. no. 10 (1781).

Proserpinus ænothæræ, Hübner, Verz. bek. Schmett. p. 132. no. 1413 (1816).

VOL. IX.—PART X. No. 4.—October, 1876.

4 c

Pterogon ænothæ, Boisduval, Ind. Meth. p. 46. no. 372.

Sphinx proserpina, Pallas, Spic. Zool. ix. p. 26, pl. 2. fig. 7 (1772).

Europe (*Becker*).

B.M.

2. PROSERPINUS CLARKIÆ.

Pterogon clarkiæ, Boisduval, Ann. Soc. Ent. Fr. 2^e sér. x. p. 319 (1852).

Thyreus? clarkiæ, Walker, Lep. Het. viii. p. 262 (1856).

Proserpinus clarkiæ, Clemens, Syn. N.-Am. Sph., Journ. A. N. S. Phil. 1859, p. 134.

California (*Lord Walsingham*).

B.M.

3. PROSERPINUS GAURÆ.

Sphinx gauræ, Smith and Abbot, Ins. Georgia, vol. i. p. 61, pl. 31 (1797).

Proserpinus gauræ, Hübner, Verz. bek. Schmett. p. 132 (1816).

Thyreus gauræ, Walker, Lep. Het. viii. p. 100. no. 3 (1856).

Georgia (*Abbot*); ? Texas (*Clemens*).

4. PROSERPINUS GORGON.

Sphinx gorgon, Esper, Eur. Schmett. ii. Cont. 22, pl. 47. fig. 5 (1777).

Macroglossa gorgon, Ochsenheimer, Eur. Schmett. ii. p. 199 (1808).

Pterogon gorgon, Duponchel, Hist. Nat. Lép. Fr., Suppl. ii. p. 23, pl. 3. fig. 2 (1832).

Pterogon gorgoniades, Boisduval, Ind. Meth. p. 32.

Proserpinus gorgoniades, Walker, Lep. Het. viii. p. 98. no. 2 (1856).

South Russia.

Genus 17. EUPROSERPINUS, Grote and Robinson.

Euproserpinus, Grote and Robinson, Proc. Ent. Soc. Phil. vol. v. p. 177 (1865).

EUPROSERPINUS PHAËTON.

Euproserpinus phaëton, Grote and Robinson, Proc. Ent. Soc. Phil. vol. v. p. 178 (1865).

California (*Weidemeyer*).

Genus 18. TEMNORA, Walker.

Temnora, Walker, Lep. Het. viii. p. 104. gen. 6 (1856).

1. TEMNORA NATALIS.

Temnora natalis, Walker, Lep. Het. viii. p. 104. no. 1 (1856).

Natal (*Gueinzius*).

Type, B.M.

2. TEMNORA (??) CAUDATA.

Thyreus caudatus, Bremer and Grey, Beitr. z. Schmett.-Faun. Nordl. China's, p. 56.

Temnora? caudata, Walker, Lep. Het. viii. p. 105. no. 3 (1856).

North China.

I do not believe this to be either a *Thyreus* or a *Temnora*; but not having seen it, I am unable to refer it to its right genus.

Genus 19. LOPHURA, Walker.

Lophura, Walker, Lep. Het. viii. p. 105. gen. 7 (1856).

1. LOPHURA PLAGIATA.

Temnora plagiata, Walker, Lep. Het. viii. p. 105. no. 2 (1856).

Panacra confusa, Walker, t. c. p. 161. no. 10 (1856).

Port Natal (*Gueinzius*).

Types. B.M.

2. LOPHURA SARDANUS.

Enyo sardanus, Walker, Lep. Het. viii. p. 116. no. 7 (1856).

Sierra Leone (*Morgan*).

Type. B.M.

3. LOPHURA ? EXCISA.

Enyo excisa, Walker, Lep. Het. viii. p. 119. no. 13 (1856).

Port Natal.

4. LOPHURA MASURIENSIS.

Lophura masuriensis, Butler, P. Z. S. 1875, p. 244, pl. xxxvi. fig. 3.

Masuri, North-west Himalayas.

Type, coll. F. Moore.

5. LOPHURA PUSILLA.

Lophura pusilla, Butler, P. Z. S. 1875, p. 244. n. 17.

Silhet.

Type, coll. F. Moore.

6. LOPHURA NANA.

Lophura nana, Walker, Lep. Het. viii. p. 107. no. 4 (1856).

Port Natal (*Gueinzius*).

Type, B.M.

7. LOPHURA ZANTHUS.

Lophura zanthus (sic), Herrich-Schäffler, Exot. Schmett. pl. 23. fig. 105 (1850-1858).

Cape of Good Hope.

A large species having the form of *L. hyas*.

8. *LOPHURA HYAS*. (Plate XC. figs. 1-3.)

Lophura hyas, Walker, Lep. Het. viii. p. 107. no. 3 (1856).

Hong-Kong (*Champion*); Silhet (*Doubleday*); Java (*Horsfield*). Type, B.M.

The larva of this species is green, varied with red-brown; or red-brown, with lateral oblique whitish lines and greenish anterior segments; the horn always very long and hair-like. The horn of one larva is frequently devoured by another.

9. *LOPHURA?* *ASILIFORMIS*.

Sphinx asiliformis, Fabricius, Ent. Syst. iii. 1, p. 357. no 7 (1793).

India.

The secondaries of this species are described as "red, with a black margin."

10. *LOPHURA CONTINUA*.

Lophura continua, Walker, Lep. Het. viii. p. 108. no. 5 (1856).

Espirito Sancto (*Stevens*); Brazil (*Becker*). Type, B.M.

11. *LOPHURA PYLAS*.

Sphinx pylas, Cramer, Pap. Exot. iii. p. 23, pl. 206. fig. A (1782).

Enyo pylas, Hübner, Verz. bek. Schmett. p. 132. no. 1417 (1816).

Lophura pylas, Walker, Lep. Het. viii. p. 106. no. 1 (1856).

Lophura brisæus, Walker, l. c. no. 2 (1856).

Lophura brisæus, Boisduval, Voy. de Delagorgue, ii. p. 594. no. 100 (1847); Wallengren. Kongl. Vetensk. Akad. Handl. v. p. 17 (1863).

Caffraria (*Becker*); South Africa (*Smith*); Cape (*Drège*); Port Natal (*Gueinzius* and *Plant*). B.M.

Genus 20. *CALLIOMMA*, Walker.

Calliomma, Walker, Lep. Het. viii. p. 108. gen. 8 (1856).

1. *CALLIOMMA?* *PLUTO*.

Sphinx pluto, Linnaeus, Mus. Lesk. p. 95. no. 184; Cramer, Pap. Exot. iii. p. 40, pl. 216. fig. E (1782).

Calliomma pluto, Walker, Lep. Het. viii. p. 111. no. 3 (1856).

Hemeroplanes pluto, Grote, Proc. Ent. Soc. Phil. v. p. 47 (1865).

Hemeroplanes plutonius, Hübner, Verz. bek. Schmett. p. 133. no. 1427 (1816).

Brazil (*Stevens*). B.M.

I cannot agree with Mr. Grote in placing this insect with *Hemeroplanes*; it is much nearer in form to *Calliomma*, but seems in some respects to approach *Zonilia*; Cramer's figure exaggerates the angulation of the primaries, which in reality is very slight.

2. *CALLIOMMA NOMIUS*.

Calliomma nomius, Walker, Lep. Het. viii. p. 109. no. 1 (1856).

Brazil (*Becker*).

Type, B.M.

3. *CALLIOMMA LICASTUS*.

Sphinx licastus, Cramer, Pap. Exot. vol. iv. p. 180, pl. 381. fig. A (1782).

Oreus licastus, Hübner, Verz. bek. Schmett. p. 136 (1816).

Calliomma lycastus (part.), Walker, Lep. Het. viii. p. 110. no. 2 (1856).

Calliomme parce, Ramon de la Sagra, Hist. Cuba, tab. 17. fig. 2.

Calliomma galianna, Grote, Proc. Ent. Soc. Phil. vol. v. p. 49 (1865).

Santa Cruz, St. Vincent (*Doubleday*); St. Thomas (*Hornbeck*); Haiti (*Tweedie*). B.M.

4. *CALLIOMMA PARCE*.

Sphinx parce, Fabricius, Sp. Ins. ii. p. 148. no. 42 (1781).

West coast of South America (*Kellett & Wood*).

B.M.

We have two examples of this species in the collection; I have compared them with the Banksian type, and have no doubt of their identity; they differ from *C. licastus* as follows:—Above and below altogether paler; the lilac marginal area of primaries replaced by buff; the bright multilunulate ochreous patch beyond cell of primaries obsolete; the silver marking smaller and more oblique; the spots on body obsolete. In form it differs also as follows:—wings longer; primaries narrower, outer margin less convex.

5. *CALLIOMMA GALIANNA*.

Sphinx galianna, Burmeister, Sph. Bras. p. 6. (1856).

Calliomma galianna, Grote, Proc. Ent. Soc. Phil. vol. v. p. 49 (1865).

Calliomma lycastus (part.), Walker, Lep. Het. viii. p. 110. no. 2 (1856).

Altogether darker in tint than *C. licastus*; the primaries with the lilac area more diffused, the pale line from it to apex straight instead of inarched, and not edged outwardly with black; the multilunulate postcellular patch deeper in colour, distinctly interrupted, its outer edge curving outwards instead of slanting inwards; a dark discal nebula between it and the external angle; all the transverse grey lines better defined; secondaries less uniform in colouring, the external area dusky; the dark patch on anal border quite black, but interrupted as usual; body more purplish in tint; abdomen with three increasing dark brown cordiform spots.

In form:—wings shorter; primaries with outer margin far less convex, inner margin more distinctly waved, the external angle consequently more prominent; outer margin scalloped; abdominal margin longer. Expanse of wings 75 millims.

Rio Janeiro (*Stevens*).

B.M.

This species is probably confined to Southern South America; I have no doubt that it is quite distinct from *C. licastus*.

6. CALLIOMMA CALLIOMENÆ.

Philampelus calliomenæ, Schaufuss, *Nunquam Otiosus*, i. p. 19 (1870).

Venezuela.

Unquestionably a *Calliomma* allied to *C. lutescens*.

7. CALLIOMMA LUTESCENS.

Calliomma lutescens, Butler, P. Z. S. 1875, p. 5, pl. i. fig. 6.

Haiti (*Tweedie*).

Type. B.M.

I found this insect associated with *C. thorates* in the genus *Pergesa*.

8. CALLIOMMA THORATES.

Oreus thorates, Hübner, *Zuträge*, figs. 525, 526 (1825).

Pergesa thorates, Walker, *Lep. Het.* viii. p. 151. no. 2 (1856).

Haiti (*Tweedie*); St. Thomas (*Hornbeck*); St. Vincent (*Doubleday*); Oaxaca (*Hartweg*); New Granada. B.M.

Mr. Walker has been followed by Messrs. Clemens, Morris, and Grote in his reference of this species to the genus *Pergesa*; the latter appears, however, to be an exclusively Old-World group, with much less waved margins to the wings, and generally more prominent vertex to the head; the coloration of the primaries also shows a different character, whilst there is much in common between those of *C. thorates* and *C. licastus*. So far as I can see, the principal reason for the exclusion of *C. thorates* from *Calliomma* was the absence of the silver spot on the primaries; yet its position is indicated by a pale spot on the under surface.

Genus 21. ENYO, Hübner.

Enyo, Hübner, *Verz. bek. Schmett.* p. 132 (1816).

1. ENYO LUGUBRIS.

Sphinx lugubris, Linnæus, *Mantissa*, ii. p. 537; *Drury*, *Ill. Exot.* vol. i. p. 61, pl. 28. fig. 2 (1770).

Thyreus lugubris, Harris, *Cat. N.-Am. Sph.*, *Sill. Journ.* vol. xxxvi. p. 306 (1839).

♀, *Enyo lugubris*, Hübner, *Zuträge*, figs. 595, 596 (1825).

Pterogon lugubris, Burmeister, *Syst. Ueb. Sph. Bras.* p. 16 (1856).

Sphinx fageus, Cramer, *Pap. Exot.* vol. iii. p. 56, pl. 225. fig. E (1782).

Enyo phegeus, Hübner, *Verz. bek. Schmett.* p. 132 (1816).

Haiti (*Tweedie*); Venezuela (*Dyson*); Mexico (*Hartweg*); St. Thomas (*Hornbeck*); Honduras (*Dyson*); Santarem (*Bates*); Rio (*Stevens*); Brazil (*Doubleday*). B.M.

On account, probably, of the difference in the sexes, and the difficulty of at once recognizing them, Mr. Walker confounded this species with *E. camertus*, *gorgon*, and *danum*.

2. ENYO CAMERTUS.

Sphinx camertus, Cramer, Pap. Exot. iii. p. 53, pl. 225. fig. A (1782).

Enyo camertus, Hübner, Verz. bek. Schmett. p. 132 (1816).

Pterogon camertus, Burmeister, Sph. Bras. p. 16.

♂, ———? (*Doubleday*); ♀, Oaxaca (*Hartweg*). B.M.

Excepting in its usually slightly shorter wings, redder tint, and the pale subapical border, I see nothing to separate this from the preceding species; and as our female of *E. lugubris* from Haiti is of a redder tint still, and has the wings as short as *E. camertus* ♂, whilst a female from St. Thomas has the wings even shorter than *E. camertus* ♀, I have very little doubt that the two forms are variations of one species (see also Wal-lengren, Œf. Vet. Akad. 1871, p. 913); no doubt it would be easy to render it in appearance quite distinct were we to pick out all the small and pale females of *E. lugubris* (as it seems to me that my friend Grote must have done¹); but as in our case the sexes arrived together from Haiti, this would be impossible.

3. ENYO DANUM.

Sphinx danum, Cramer, Pap. Exot. vol. iii. p. 53, pl. 225. fig. B (1782).

Enyo danum, Hübner, Verz. bek. Schmett. p. 132. no. 1421 (1816).

Pterogon dunum, Burmeister, Syst. Ueb. Sph. Bras. p. 16 (1856?).

Thyreus danum, Boisduval, Lép. Guat. p. 67 (1870).

? *Sphinx ozyzpete*, Linnæus, Mus. Lud. Ulr. p. 344. no. 4 (1764).

Tabatinga, Peru (*Degand*); Bolivia (*Buckley*); Haiti (*Tweedie*). B.M.

This is a well-marked species, at once recognized by the fusiform sulphur-yellow patch on the abdominal margin of secondaries; I believe this to be the *Sph. ozyzpete* of Linnæus.

4. ENYO GORGON.

♀, *Sphinx gorgon*, Cramer, Pap. Exot. ii. p. 73, pl. 142. fig. E (1779).

Enyo gorgon, Hübner, Verz. bek. Schmett. p. 132. no. 1418 (1816).

♂, *Sphinx lyctus*, Cramer, Pap. Exot. iii. p. 56, pl. 225. fig. F (1782).

Enyo lyctus, Hübner, Verz. bek. Schmett. p. 132. no. 1419 (1816).

Thyreus lyctus, Herrich-Schäffer, Ausserer. Schmett. i. pl. 23. fig. 108 (1850-1858).

Thyreus lyctus, Boisduval, Lép. Guat. p. 68 (1870).

♂, Brazil, ♀, Rio (*Stevens*); ♂ ♀, Venezuela (*Dyson*). B.M.

Hübner's *E. lugubris* is unquestionably the typical female of that species; it has the same scalloped outer margin, which, however, is wanting in this species.

¹ If I have done Mr. Grote an injustice in this supposition, I know he will forgive me; but he mentions only "three female specimens" in his comparative description.

5. ENYO ? CINNAMOMEA.

Enyo cinnamomea, Herrich-Schäffer, Samml. auss. Schmett. ii. p. 3, fig. 558 (1869).

North Australia.

I very much doubt this being a true *Enyo*.

Genus 22. ALEURON, Boisduval.

Aleuron, Boisduval, Léop. Guat. p. 71 (1870).

Callenyo, Grote (1873).

Tylognathus, Felder (1874), ex parte.

1. ALEURON CHLOROPTERA.

Sphinx chloroptera, Perty, Del. Anim. Artic. Bras. pl. 31. fig. 3.

Enyo chloroptera, Walker, Lep. Het. viii. p. 118. no. 10 (1856).

Aleuron chloroptera, Boisduval, Léop. Guat. p. 71 (1870).

Callenyo chloroptera, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 279 (1873).

Honduras.

B.M.

The form of the palpi at once separates the above species from *Enyo*.

2. ALEURON IPHIS.

Enyo iphis, Walker, Lep. Het. viii. p. 116. no. 8 (1856).

Tylognathus scriptor, Felder, Reise der Nov., Lep. iv. tab. 82. fig. 4 (1874).

Brazil (*Stevens*).

Type, B.M.

This differs a little from the type of the genus in the outline of the primaries.

3. ALEURON PROMINENS.

Enyo prominens, Walker, Lep. Het. viii. p. 115. no. 4 (1856).

Brazil.

Possibly a variation of the preceding species.

Genus 23. TYLOGNATHUS, Felder.

Tylognathus, Felder, Reise der Nov., Lep. v. (1874).

1. TYLOGNATHUS SMERINTHOIDES.

Tylognathus smerinthoides, Felder, Reise der Nov., Lep. iv. tab. 82. fig. 5 (Nov. 1874).

——— ?

If the palpi of this species are correctly figured, it has a right to be considered distinct from *Aleuron*, although in general pattern it nearly approaches *A. chloroptera*; moreover in the form of the primaries it agrees with *Gonenyo carinata*.

2. TYLOGNATHUS PHILAMPELOIDES.

Tylognathus philampeloides, Felder, Reise der Nov., Lep. iv. tab. 75. fig. 11 (Nov. 1874).

—————?

But for the palpi I should have supposed this to be the female of *Gonenyo carinata*.

Genus 24. GONENYO, n. gen.

Callenyo (part.), Grote.

GONENYO CARINATA.

Enyo carinata, Walker, Lep. Het. viii. p. 117. no. 9 (1856).

Pará (*Smith and Bates*).

Type, B.M.

At once distinguishable from *Enyo* by the form of the palpi, it differs also from *Callenyo* in the more highly developed palpi, the length of the abdomen, the undulation of the outer margin of primaries, &c.; whether it can be separated from *Tylognathus* can only be decided when we see examples of Felder's species.

Genus 25. HEMEROPLANES, Hübner.

Hemeroplanes, Hübner, Verz. bek. Schmett. p. 133 (1816).

1. HEMEROPLANES TRIPTOLEMUS.

Sphinx triptolemus, Cramer, Pap. Exot. iii. p. 40, pl. 216. fig. F (1782).

Hemeroplanes triptolemus, Hübner, Verz. bek. Schmett. p. 133. no. 1426 (1816).

Calliomma triptolemus, Walker, Lep. Het. viii. p. 111. no. 4 (1856).

Brazil (*Stevens*); Pará (*Bates*); Ega (*Bates*).

B.M.

Our example from Ega is rather paler than the type, and slightly redder in tint, the brown streak on the head and thorax obsolete, the abdomen more uniformly dark brown and distinctly annulated with yellow; it is probably only an individual variation.

2. HEMEROPLANES OICLUS.

Sphinx oiclus, Cramer, Pap. Exot. iii. p. 39, pl. 216. fig. C. (1782).

Hemeroplanes oiclus, Hübner, Verz. bek. Schmett. p. 133. no. 1428 (1816).

Enyo oiclus, Walker, Lep. Het. viii. p. 115. no. 6 (1856).

Surinam.

3. HEMEROPLANES ? PSEUDOTHYREUS.

Calliomma oiclus?, Herrich-Schäffer, nec Cramer, Corr.-Blatt. (1865), p. 57.

Hemeroplanes pseudothyreus, Grote, Proc. Ent. Soc. Phil. p. 46, pl. 1. fig. 1 (1865); Herrich-Schäffer,

Samml. auss. Schm. ii. fig. 554 (1869).

"Tropical Insular District!"

The figure of this species seems hardly to agree with *Hemeroplanes*, the antennæ being represented as thicker than in *H. triptolemus*, and without the terminal curvature common to that species and represented by Cramer in his species of this genus; in the form of the primaries also it seems almost to approach *Philampelus*.

4. *HEMEROPLANES*? PAN.

Sphinx pan, Cramer, Pap. Exot. iii. p. 39, pl. 216. fig. D (1782).

Hemeroplanes pan, Hübner, Verz. bek. Schmett. p. 133. no. 1425 (1816).

Enyo pan, Walker, Lep. Het. viii. p. 118. no. 11 (1856).

Surinam.

I am inclined to think that this is an exaggerated *Calliomma*.

Subfamily II. CHÆROCAMPINÆ.

Genus 1. *ACOSMERYX*¹, Boisduval.

Acosmeryx, Boisduval, Sp. Gén. Lép. p. 214 (1875); Butler, P. Z. S. 1875, p. 245.

1. *ACOSMERYX CINEREA*.

Acosmeryx cinerea, Butler, P. Z. S. p. 245 (1875).

Silhet (*Argent*).

Type, B.M.

2. *ACOSMERYX SERICEUS*.

Philampelus sericeus, Walker, Lep. Het. viii. p. 181. no. 13 (1856).

♂ ♀, Silhet (*Stainsforth* and *Argent*); North India.

Type, B.M.

Two species were confounded under this name by Mr. Walker.

3. *ACOSMERYX ANCEUS*. (Plate XC. figs. 11, 12.)

Sphinx anceus, Cramer, Pap. Exot. iv. p. 124, pl. 355. fig. A (1782).

Enyo anceus, Hübner, Verz. bek. Schmett. p. 132. no. 1423 (1816).

Philampelus anceus, Moore, Cat. Lep. E.I. Comp. i. p. 270. no. 624 (1857).

"Amboina" (*Cramer*); ♂, ♀, Java (*Horsfield*).

B.M.

Mr. Moore has specimens from Silhet and South India.

4. *ACOSMERYX MISKINI*.

♀, *Daphnusa miskini*, R. P. Murray, Cist. Ent. i. pt. 7, p. 178 (Oct. 1873).

Queensland (*Miskin*).

Type, B.M.

¹ This genus has the aspect of the genus *Triptogon* (*Smerinthinae*); but the structure of the larva proves it to belong to the Chærocampinæ.

The type of this species was presented to the collection by the Rev. R. P. Murray. It is exceedingly closely allied to *A. anceus* of Cramer, from the female of which it scarcely differs, excepting in its superior size, slightly broader and less angular primaries, and a dark brown longitudinal streak on the thorax; it may, I think, be the female of *Zonilia mixtura* of Walker.

5. ACOSMERYX MIXTURA.

♂, *Zonilia mixtura*, Walker, Lep. Het. Suppl. i. p. 34 (1864).

Aru.

Not having seen the type, I can only judge by the description that *Z. mixtura* is referable to this genus.

Genus 2. OTUS, Hübner.

Otus, Hübner, Verz. bek. Schmett. p. 142. gen. 1 (1816).

1. OTUS SYRIACUS.

Deilephila syriaca, Lederer, Ver. zool.-botan. Vereins Wien, Band v. p. 195, Taf. 2. figs. 9, 12 (1855).

Pergesa syriaca, Walker, Lep. Het. Suppl. i. p. 32 (1864).

Siberia (*Lederer*).

Allied to *O. cherilus* of Cramer.

The genus *Otus* was restored to the first three species of Walker's *Darapsa* in 1865, thus restricting the group to nos. 4-10. But, as I have shown, all the species excepting no. 4 are referable to other genera previously formed; so that Mr. Grote, to all intents and purposes, fixed *D. rhodocera* as Walker's type. I find, however, that in the first vol. Bull. Buffalo Soc. Nat. Sci. p. 22 he has restored Walker's name to *Otus* of Hübner, a genus which is structurally distinct from the type already fixed; I am therefore unable to follow this later decision of his. He does not state his reasons for the alteration in the Bulletin, nor am I aware that he has done so elsewhere; still I am satisfied that so sound an entomologist has not acted capriciously.

2. OTUS CHÆRILUS.

Sphinx cherilus, Cramer, Pap. Exot. iii. p. 91, pl. 247. fig. A (1782).

Otus cherilus, Hübner, Verz. bek. Schmett. p. 142 (1816).

Charocampa cherilus, Harris, Sill. Journ. vol. xxxvi. p. 302 (1839).

Darapsa cherilus, Walker, Lep. Het. viii. p. 182 (1856).

Sphinx azuleæ, Smith and Abbot, Ins. Georg. vol. i. p. 53, pl. 27 (1797).

Sphinx clorinda, Martyn, Psyche, pl. 25. figs. 66, 67 (1797).

United States (*Doubleday*); West Canada (*Bush*).

B.M.

3. OTUS MYRON.

Sphinx myron, Cramer, Pap. Exot. iii. p. 91, pl. 247. fig. C (1782).

Otus myron, Hübner, Verz. bek. Schmett. p. 142 (1816).

Darapsa myron, Walker, Lep. Het. viii. p. 183. no. 2 (1856).

Sphinx pampinatrix, Smith & Abbot, Ins. Georg. vol. i. p. 55, pl. 28 (1797).

Cherocampa pampinatrix, Harris, Sill. Journ. vol. xxxvi. p. 301 (1839); Seudder, Harris's Correspondence, p. 283, pl. 1. fig. 10 (1869).

Otus cnotus, Hübner, Samml. exot. Schmett. Zuträge, figs. 321, 322 (1823).

United States (*Doubleday*).

B.M.

The transformations of *O. myron* are figured and described in the 'American Entomologist,' vol. ii. pp. 22-24.

4. OTUS VERSICOLOR.

Cherocampa versicolor, Harris, Sill. Journ. vol. xxxvi. p. 303 (1839).

Darapsa versicolor, Clemens, Journ. Acad. Nat. Sci. Phil. 1859, p. 148.

Otus versicolor, Grote, Proc. Ent. Soc. Phil. 1865, p. 81.

"Atlantic District!" (*Grote*).

The larva feeds on *Cephalanthus occidentalis* (see W. II. Edwards, Canad. Ent. ii. p. 134).

5. OTUS PHOLUS.

Sphinx pholus, Cramer, Pap. Exot. i. p. 137, pl. 87. fig. B (1779).

Darapsa pholus, Walker, Lep. Het. viii. p. 184 (1856).

Otus pholus, Grote, Proc. Ent. Soc. Phil. p. 81 (1865).

"West Indies" (*Cramer*).

Genus 3. AMPELOPHAGA, Bremer & Grey.

Ampelophaga, Bremer & Grey, Beitr. Schmett.-Fauna nördlichen China's, p. 11 (1853).

1. AMPELOPHAGA RUBIGINOSA. (Plate XCI. figs. 4, 5.)

Ampelophaga rubiginosa, Bremer & Grey, Beitr. zur Schmett.-Fauna nördl. China's, p. 11. no. 52 (1853).

Deilephila rubiginosa, Walker, Lep. Het. viii. p. 173. no. 18 (1856).

Cherocampa rubiginosa, Ménétriés, Enum. Corp. Anim. Mus. Imp. Acad. Sci. Petrop. ii. p. 91. no. 1513, pl. xii. fig. 2 (1857).

Pekin; Japan (*Lewis*).

B.M.

I have examined a specimen of this species taken by Mr. Lewis in Japan. It appears to be more nearly allied to the genus *Otus* of Hübner than to any thing else. I have also seen an example with a doubtful locality in Mr. Moore's collection. The larva, which feeds on a very common large-leaved creeping plant, is dark green at the sides, irrorated

and laterally striped with white; anterior segments and dorsal region sap-green, golden green in front of each segment; prolegs reddish; spiracles orange; the pupa is rather pale, red-brown, with the pectus and wing-covers whity brown.

Genus 4. ELIBIA, Walker.

Elibia, Walker, Lep. Het. viii. p. 148. gen. 15 (1856).

1. ELIBIA DOLICHUS.

Charocampa dolichus, Westwood, Cab. Orient. Ent. p. 61, pl. 30. fig. 1 (1848).

Elibia dolichus, Walker, Lep. Het. viii. p. 149. no. 1 (1856).

Silhet (*Sowerby, Doubleday*).

Type, B.M.

2. ELIBIA DOLICHOIDES.

Philampelus dolichoides, Felder, Reise der Nov., Lep. iv. tab. 76. fig. 8 (Nov. 1874).

Pergesa dolichoides, Moore, P. Z. S. 1874, p. 577.

Sikkim (*Jerdon*).

Coll. F. Moore.

This species has the same general pattern (with the exception of the whitish dorsal line) as the Smerinthine *Polyptychus dentatus*.

Genus 5. PERGESA, Walker.

Pergesa, Walker, Lep. Het. viii. p. 149. gen. 16 (1856).

1. PERGESA PORCELLUS.

Sphinx porcellus, Linnæus, Syst. Nat. i. 2, p. 801. no. 18 (1766).

Theretra porcellus, Hübner, Verz. bek. Schmett. p. 135. no. 1448 (1816).

Deilephila porcellus, Stephens, Ill. Brit. Ent. Haust. i. p. 131. no. 8 (1828).

Charocampa porcellus, Westwood & Humphrey, Brit. Moths, i. p. 23, pl. 23. figs. 9, 10 (1843-5).

Pergesa porcellus, Walker, Lep. Het. viii. p. 150. no. 1 (1856).

Sphinx bombyliiformis, Linnæus, Syst. Nat. ed. 10, p. 493.

England (*British Collection*); Germany (*Becker*).

B.M.

2. PERGESA ? ACUTA.

Zonilia acuta, Walker, Lep. Het. viii. p. 195. no. 7 (1856).

? *Pergesa castor* (part.), Walker, Lep. Het. viii. p. 153. no. 5 (1856).

Silhet (*Doubleday*).

B.M.

Our two examples of this species differ much from one another in detail; but between them they perfectly answer (except in being rather larger) to Walker's description of *Z. acuta*. That his species is not a *Zonilia* I feel satisfied, not only from the name which he applies to it, but from the following points in his description:—"Abdomen with two

dorsal rows of black dots. Fore wings glaucous along the exterior border, and with several oblique rows of black dots. Hind wings brown, with an incomplete tawny stripe."

3. PERGESA ACTEUS.

Sphinx acteus, Cramer, Pap. Exot. iii. p. 93, pl. 248. fig. A (1782).

Oreus acteus, Hübner, Verz. bek. Schmett. p. 136. no. 1464 (1816).

Pergesa acteus, Walker, Lep. Het. viii. p. 153. no. 6 (1856).

Silhet (*Stainsforth*); North India (*James*); East India, Bengal, Moulmein (*Clerck*); Ceylon (*Templeton*); Borneo (*Lowe*); Java (*Horsfield*). B.M.

4. PERGESA IRREGULARIS.

Pergesa irregularis, Walker, Lep. Het. viii. p. 152. no. 4 (1856).

West Africa (*Doubleday*).

Type, B.M.

5. PERGESA VELATA.

Pergesa velata, Walker, Lep. Het. Suppl. v. p. 1853 (1866).

? *Pergesa castor*, Moore (nec Walker), Cat. Lep. E.I. Comp. i. p. 273. no. 630 (1857).

Darjeeling (*Russell*).

Type, B.M.

Mr. Moore has an example from the North-west Himalayas.

6. PERGESA CASTOR.

Pergesa castor, Walker, Lep. Het. viii. p. 153. no. 5 (1856).

Java (*Henry*).

B.M.

7. PERGESA OLIVACEA.

Pergesa olivacea, Moore, P. Z. S. 1872, p. 567.

Pergesa castor, var. β , Walker, *l. c.* (1856).

———? (*E. Doubleday*).

B.M.

Walker asserts that this species is from Silhet; but there is no locality given for it in the register. It was presented to the collection by Mr. Doubleday along with many other species, most of them without localities. It is a well-marked species, and perfectly distinct from *P. castor*. The type in Mr. Moore's collection comes from Simla, North-west Himalayas, 7000 feet; it was taken by Capt. Lang.

8. PERGESA SWINHOEI.

Charocampa swinhoei, Moore, Proc. Zool. Soc. 1866, p. 362. no. 3.

Formosa (*Swinhoe*).

Type, coll. F. Moore.

This appears to me to be better placed in *Pergesa* than in *Charocampa*.

9. PERGESA? MACROGLOSSOIDES.

Perigonia macroglossoides, Walker, Lep. Het. Suppl. v. p. 1851 (1866).

Darjeeling.

Possibly referable to *Panacra*, but certainly not to the New-World genus *Perigonia*; I have not seen the type.

10. *PERGESA CASTANEA*.

Pergesa castanea, Moore, P. Z. S. 1872, p. 567.

Bombay.

Type, coll. F. Moore.

This is a curious dark little species, with a broad plumbaginous or silky greyish border to primaries.

11. *PERGESA VAMPIRUS*.

Sphinx vampyrus, Fabricius, Mant. Ins. ii. p. 98. no. 66 (1787).

East Indies?

Evidently a *Pergesa* with reddish secondaries.

12. *PERGESA ÆGROTA*. (Plate XCII. fig. 2.)

Pergesa ægrotæ, Butler, P. Z. S. 1875, p. 246.

Silhet.

Type, coll. F. Moore.

13. *PERGESA AURIFERA*.

Pergesa aurifera, Butler, P. Z. S. 1875, p. 7. no. 11.

Sikkim (*Whitely*); North India.

Type, B.M.

Mr. Moore has two examples of the brownish variation of this species, labelled "North-east Himalayas," and a third, labelled "Darjeeling."

14. *PERGESA FUSIMACULA*.

Pergesa fusimacula, Felder, Reise der Nov., Lep. iv. tab. 76. fig. 4 (1874).

———?

Allied to the preceding, and to *P. castor*.

15. *PERGESA GLORIOSA*. (Plate XCII. fig. 3.)

Pergesa gloriosa, Butler, P. Z. S. 1875, p. 246.

Darjeeling.

Type, coll. F. Moore.

Genus 6. *PANACRA*, Walker.

Panacra, Walker, Lep. Het. viii. p. 154. gen. 17 (1856).

1. *PANACRA BUSIRIS*.

Panacra busiris, Walker, Lep. Het. viii. p. 158. no. 6 (1856).

Silhet (*Stainsforth*, *Doubleday*).

Type, B.M.

2. PANACRA TESTACEA.

Perigonia testacea, Walker, Lep. Het. viii. p. 102. no. 3 (1856).

———? (*Doubleday*); Ceylon (*Green*).

Type, B.M.

3. PANACRA ELLA. (Plate XCII. fig. 7.)

Panacra ella, Butler, P. Z. S. 1875, p. 246.

Silhet.

Type, coll. F. Moore.

4. PANACRA ASSAMENSIS.

Panacra assamensis, Walker, Lep. Het. viii. p. 160. no. 9 (1856).

Silhet (*Stainsforth*).

Type, B.M.

5. PANACRA TRUNCATA.

Panacra truncata, Walker, Lep. Het. viii. p. 160. no. 8 (1856).

Silhet (*Stainsforth*).

Type, B.M.

6. PANACRA AUTOMEDON.

Panacra automedon, Walker, Lep. Het. viii. p. 154. no. 1 (1856).

Silhet (*Stainsforth*, *Doubleday*, *Sowerby*).

Type, B.M.

7. PANACRA MYDON.

Panacra mydon, Walker, Lep. Het. viii. p. 155. no. 2 (1856).

Panacra scapularis (part.), Walker, l. c. p. 157. no. 5 (1856).

Silhet (*Argent*, *Sowerby*, *Doubleday*); Barrackpore (*Hearsay*).

Type, B.M.

8. PANACRA ? MINUS.

Sphinx minus, Fabricius, Mant. Ins. ii. p. 96. no. 44 (1787).

Chærocampa minus, Walker, Lep. Het. viii. p. 262 (1856).

India.

9. PANACRA METALLICA.

Panacra metallica, Butler, P. Z. S. 1875, p. 6. no. 9.

North India (*Parry*).

Type, B.M.

10. PANACRA ORPHEUS.

Chærocampa orpheus, Herrich-Schäffer, Samml. aussereurop. Schmett. pl. 23. fig. 104 (1850-1858).

Cape of Good Hope.

11. PANACRA VARIOLOSA.

Panacra variolosa, Walker, Lep. Het. viii. p. 156. no. 4 (1856).

Silhet.

12. PANACRA SCAPULARIS.

Panacra scapularis, Walker, Lep. Het. viii. p. 157. no. 5 (1856).

Var. *Panacra elegantulus*, Herrich-Schäffer, Samml. aussereurop. Schmett. pl. 83. fig. 479 (1850-58).

Java (*Horsfield*); Silhet (*Sowerby*).

Type, B.M.

The example from Silhet and one of the Javan examples are quite different in appearance from the typical form, the ground-colour of the wings being much paler and without the usual reddish tint, and the bands and spots on the wings much darker; they agree with Herrich-Schäffer's figure. The transformations are figured by Moore.

13. PANACRA ? OCHRACEA.

Callionma ochracea, Walker, Lep. Het. viii. p. 112. no. 5 (1856).

Sumatra.

14. PANACRA REGULARIS. (Plate XCII. fig. 4.)

Panacra regularis, Butler, P. Z. S. 1875, p. 247.

Java.

Type, coll. F. Moore.

15. PANACRA VIGIL.

Sphinx (Deilephila) vigil, Guérin-Ménéville, in Delessert's Souv. Voy. dans l'Inde, pt. ii. p. 80, pl. 23. fig. 1 (1843).

Sphinx phœnix, Herrich-Schäffer, Samml. aussereurop. Schmett. pl. 83. fig. 478 (1850-1858).

Anceryx phœnix, Walker, Lep. Het. Suppl. i. p. 36 (1864).

Colombo, Ceylon (*Nietner*); Ceylon (*Templeton*); Coimbatore, South India (*Walhouse*); Philippines (*Stevens*).

B.M.

The larva is described by Dr. Semper, Verhandl. zool.-botan. Gesellsch. Wien, p. 699 (1867).

16. PANACRA LIGNARIA.

Panacra lignaria, Walker, Lep. Het. viii. p. 156. no. 3 (1856).

Charocampa phœnix, Koch (nec H.-Sch.), Indo-Austral. Lep. Fauna, ii. p. 53 (1873).

Cape York (*Macgillivray & Higgins*).

Type, B.M.

"The Ceylon specimen" mentioned by Mr. Walker is *P. vigil*; it not only differs from *P. lignaria* in being "much smaller," but in its much paler wings with the black lines in the light band very indistinct.

17. PANACRA ? BUBASTUS.

Sphinx bubastus, Cramer, Pap. Exot. ii. p. 84, pl. 149. fig. E (1779).

Ambylypterus bubastus, Hübner, Verz. bek. Schmett. p. 133. no. 1431 (1816).

Callionma bubastus, Walker, Lep. Het. viii. p. 112. no. 6 (1856).

Coromandel.

Genus 7. CIZARA, Walker.

CIZARA ARDENIÆ.

Sphinx ardeniæ, Lewin, Prodr. Ent. iii. pl. 2 (1805).

Deilephila ardeniæ, Boisduval, Voy. de l'Astrolabe, Ent. p. 183. no. 1 (1832-1835).

Cizara ardeniæ, Walker, Lep. Het. viii. p. 120. no. 1 (1856).

Australia (*Strange, Stevens*).

B.M.

Genus 8. MICROLOPHIA, Felder.

Microlophia, Felder, Reise der Nov., Lep. v. (1865).

Allied to *Pergesa* and *Panacra*; at once distinguished by the strongly arched outer margin of the primaries, abruptly excavated above the external angle, also by the shorter body and much less prominent head.

MICROLOPHIA SCULPTA.

Microlophia sculpta, Felder, Reise der Novara, Lep. iv. pl. 75. fig. 9 (1874).

Primaries with basal two-thirds olive-brown, with the outer margin very irregular, festooned, with a buff edge; external third of wing whitish brown, darker along the margin; a transverse central horizontal whitish bar, terminating at the end of the cell in a hyaline spot; secondaries with basal third and abdominal area fulvous, costal area testaceous, remainder of the wing chocolate-brown, marked near anal angle by a whitish submarginal litura and two or three small black buff-zoned ocellated spots; body pale brown, with the pterygodes and a central prothoracic streak red-brown; wings below clay-coloured, and transversely crossed by indistinct dots and lines; primaries with end of cell brownish, a reniform discocellular hyaline white spot; body below sordid clay-colour. Expanse of wings 2 inches 2 lines.

South India (*Ward*).

Type, coll. F. Moore.

Genus 9. BASIOTHEA, Walker.

Basiothea, Walker, Lep. Het. viii. p. 124. gen. 13 (1856).

BASIOTHEA IDRICUS.

Sphinx idricus, Drury, Ill. Nat. Hist. iii. p. 2, pl. 2. fig. 2 (1773).

Basiothea idricus, Walker, Lep. Het. viii. p. 125. no. 1 (1856).

Deilephila idrieus (sic), Boisduval, Faune Ent. de Madag. p. 73. no. 73, pl. 10. fig. 5 (1833).

Charocampa idraeus (sic!), Guénée, Notes sur l'île de la Réunion, Lép. p. 21 (1862).

Sphinx medea, Fabricius, Sp. Ins. ii. p. 143. no. 19 (1781).

Sphinx clio, Fabricius, Ent. Syst. iii. 1, p. 377. no. 65 (1793).

Sphinx onothberina, Martyn, *Psyche*, pl. 22. figs. 58, 59 (1797).

Charocampa transfigurata, Wallengren, Wien. ent. Monatschr. vol. iv. p. 42. no. 42 (1860).

Port Natal (*Plant, Gueinzius*); Sierra Leone (*Morgan*).

B.M.

Wallengren (Öfv. Vet. Akad. 1871, p. 913), publishes his opinion that his *C. transfigurata* is = *B. idricus*.

Genus 10. GNATHOSTYPSIS, Wallengren.

Gnathostypsis, Wallengren, Öfvers. Kongl. Vetensk-akad. Förhandl. 1858, p. 137.

Allied to *Charocampa*. Antennæ with recurved apex, furnished with a fasciculus of rigid hairs. Palpi ascending, forming a projection in front of the head as in *Charocampa*, hairy; last joint large, acicular, pilose, robust; intermediate joint laterally compressed, with a slender fringe of hairs separated from the last joint by an interval destitute of hairs on its outer edge. Proboscis long, not concealed. Head porrect; vertex convex, crested. Thorax sloping from the vertex, very convex on the dorsum, smooth, with the pterygodes appressed. Abdomen thick. Form of the wings almost as in *Charocampa*, but broader; primaries with the apex not falcate, external angle more rounded; secondaries with outer margin not excised.

GNATHOSTYPSIS OSTRACINA.

Gnathostypsis ostracina, Wallengren, Wien. ent. Mon. iv. p. 42. no. 43 (1860); Kongl. Svensk. Vetensk.-Akad. Handl. v. p. 19. no. 1 (1863).

Caffraria.

Genus 11. DIODOSIDA, Walker.

Diodosida, Walker, Lep. Het. viii. p. 163. gen. 19 (1856).

1. DIODOSIDA MURINA.

Diodosida murina, Walker, Lep. Het. viii. p. 163. no. 1 (1856).

Darapsa marginata, var. β , Walker, l. c. p. 185. no. 5 (1856).

♀, Port Natal (*Stevens, Gueinzius*).

Type, B.M.

2. DIODOSIDA MARGINATA.

Darapsa marginata, Walker, Lep. Het. viii. p. 185. no. 5 (1856).

♂ ♀, Port Natal (*Gueinzius*).

Type, B.M.

Very distinct from the preceding, but unquestionably belonging to the same genus.

3. DIODOSIDA FUMOSA.

Zonilia fumosa, Walker, Lep. Het. viii. p. 193. no. 3 (1856).

Congo (*Richardson*).

Type, B.M.

The palpi in this species are rather long for the genus, and the prothorax is rather prominent; but the distinctions are scarcely sufficiently well marked to warrant its generic separation.

4. DIODOSIDA ? RHADAMISTUS.

Sphinx rhadamistus, Fabricius, Mant. Ins. ii. p. 93. no. 10 (1787).

Sierra Leone.

Genus 12. CYPA¹, Walker.*Cypa*, Walker, Lep. Het. Suppl. i. p. 41 (1864).

CYPA FERRUGINEA.

Cypa ferruginea, Walker, Lep. Het. Suppl. i. p. 42 (1864).Ceylon (*Stevens*).

Type, B.M.

Genus 13. CHÆROCAMPA, Duponchel.

Chærocampa, Duponchel, Hist. Nat. Léop. Fr. Suppl. ii. p. 159.

1. CHÆROCAMPA ELPENOR.

Sphinx elpenor, Linnæus, Faun. Succ. p. 288. no. 1089 (1746).*Oreus elpenor*, Hübner, Verz. bek. Schmett. p. 136. no. 1463 (1816).*Deilephila elpenor*, Stevens, Ill. Brit. Ent. Haust. i. p. 131 (1828).*Chærocampa elpenor*, Westwood & Humphrey, Brit. Moths, i. p. 22, pl. 51. figs. 7, 8 (1843-5).Germany (*Becker*); England (*British Coll.*).

B.M.

2. CHÆROCAMPA LEWISII. (Plate XC. figs. 13-15.)

Chærocampa lewisii, Butler, P. Z. S. 1875, p. 247.Japan (*Lewis*).

Type, B.M.

3. CHÆROCAMPA MACROMERA.

Chærocampa macromera, Butler, P. Z. S. 1875, p. 7.*Chærocampa elpenor*, var., Walker, Lep. Het. viii. p. 128 (1856).*Chærocampa rivularis*, Boisduval, Sp. Gén. Léop. p. 280 (1875).Silhet (*Macgillivray*); ——— ? (*Doubleday*).

Type, B.M.

4. CHÆROCAMPA FRATERNA.

Chærocampa fraterna, Butler, P. Z. S. 1875, p. 248.Simla (*coll. F. Moore*); North India.

B.M.

5. CHÆROCAMPA MIRABILIS. (Plate XCII. fig. 1.)

Chærocampa mirabilis, Butler, P. Z. S. 1875, p. 248.

North-west Himalayas.

Type, coll. F. Moore.

¹ Seems allied to *Pergesa*; but the head is much smaller and almost concealed by the thorax, as seen from above. It may belong to the *Smerinthinæ*, as suggested by Dr. Boisduval.

6. CHÆROCAMPA ALECTO.

Sphinx alecto, Linuæus, Mus. Lud. Ulr. p. 357 (1764); Drury, Ill. Exot. Ins. ii. p. 48, pl. 27. fig. 4 (1773).

Isoples alecto, Hübner, Verz. bek. Schmett. p. 135. no. 1453 (1816).

Deilephila alecto, Boisduval, Ind. Meth. p. 46. no. 376.

Charocampa alecto, Walker, Lep. Het. viii. p. 130. no. 3 (1856).

Deilephila cretica, Boisduval, Ann. Soc. Linn. Paris, 1827, p. 118, pl. 6.

North India (*James*); Landoor (*Hearsay*); Silhet (*Stainsforth*); Hong-Kong (*Stevens*); Borneo (*Lowe*); Java (*Horsfield*). B.M.

Var. ? altogether paler (possibly faded).

Turkey (*Loftus*). B.M.

7. CHÆROCAMPA SUFFUSA.

Charocampa suffusa, Walker, Lep. Het. viii. p. 146. no. 32 (1856).

Hong-Kong (*Bowring*); Borneo (*Lowe, Wallace*). Type, B.M.

Allied to the preceding species.

8. CHÆROCAMPA CECROPS.

Sphinx cecrops, Cramer, Pap. Exot. iii. p. 57, pl. 226. fig. B (1782).

Thaumas cecrops, Hübner, Verz. bek. Schmett. p. 138. no. 1478 (1816).

Charocampa cecrops, Walker, Lep. Het. viii. p. 145. no. 30 (1856).

Cape.

This seems to be a remarkable variety of *C. capensis*; but it may be distinct.

9. CHÆROCAMPA CAPENSIS.

Sphinx capensis, Linnaeus, Mus. Lud. Ulr. p. 349 (1764).

Thaumas capensis, Hübner, Verz. bek. Schmett. p. 138. no. 1477 (1816).

Charocampa capensis, Walker, Lep. Het. viii. p. 139. no. 21 (1856).

Sphinx immaculata, Gmelin, Syst. Nat. i. 5, p. 2386; Zschach, p. 95, pl. 3. fig. 283.

Sphinx æas, Cramer, Pap. Exot. iii. p. 57, pl. 226. fig. A (1782).

Cape (*Drège, Milne, Becker*); Natal (*Gueinzus*); Zoolu (*Angas*). B.M.

Somewhat like *C. alecto*, but altogether much paler.

10. CHÆROCAMPA ESON.

Sphinx eson, Cramer, Pap. Exot. iii. p. 57, pl. 226. fig. C (1782).

Isoples eson, Hübner, Verz. bek. Schmett. p. 135. no. 1452 (1816).

Deilephila eson, Boisduval, Faune Ent. de Madag. p. 71. no. 2 (1833).

Charocampa eson, Walker, Lep. Het. viii. p. 137. no. 17 (1856).

Natal (*Gueinzus*); Cape (*Becker*). B.M.

Evidently quite distinct from the Indian *C. theylia*; it is as large as *C. suffusa*, which it is not unlike.

11. *CHÆROCAMPA GRACILIS*.*Chærocampa gracilis*, Butler, P. Z. S. 1875, p. 8, pl. ii. fig. 2.Congo (*Richardson*); Sierra Leone (*Morgan*).

Type, B.M.

12. *CHÆROCAMPA ELEGANS*.*Chærocampa elegans*, Butler, P. Z. S. 1875, p. 8, pl. ii. fig. 1.♂, Java (*Horsfield*); ♀, Silhet (*Stainsforth*).

Type, B.M.

In Mr. Moore's collection from North-east Bengal.

13. *CHÆROCAMPA THEYLIA*.*Sphinx theylia*, Linnæus, Mus. Lud. Ulr. p. 360 (1764).*Isoples theylia*, Hübner, Verz. bek. Schmett. p. 1455 (1816).*Chærocampa thyelia* (sic), Moore, Cat. Lep. E.I. Comp. i. p. 276. no. 638 (1857).*Sphinx boerhavia*, Fabricius, Syst. Ent. p. 542. no. 22 (1775); Sulzer, Gesch. Ins. p. 40. no. 3, pl. xx. fig. 3 (1776).*Sphinx pinastrina*, Martyn, Psyche, pl. 30. fig. 85 (1797).*Sphinx octopunctata*, Gmelin, Syst. Nat. i. 5, p. 2386; Zschach, p. 95. no. 286.*Chærocampa eson* (part.), Walker, Lep. Het. viii. p. 137. no. 17 (1856).North India (*Argent, Hearsay*); Ceylon (*Templeton*); Hong-Kong (*Bowring*); Saráwak (*Wallace*).
B.M.14. *CHÆROCAMPA RAFFLESII*, Horsfield, MS.*Sphinx theylia* ♂, Cramer, Pap. Exot. iii. 1, p. 58, pl. 226. fig. F (1782).♂, Java (*Horsfield*); ♂ ♀, Canara (*Ward*).

Type, B.M.

The above is easily distinguished from *C. theylia*, Linnæus (see Cramer, Pap. Exot. iii. pl. 226. fig. E), by its deeper coloration, the two continuous parallel dark bands of the primaries, and the uniformly dark dull red of the secondaries; it may, perhaps, be only a dark variety. Mr. Moore has it from Madras.15. *CHÆROCAMPA TRILINEATA*.*Chærocampa trilineata*, Walker, Lep. Het. Suppl. i. p. 30 (1864).Venezuela (*Dyson*).

Type, B.M.

Very similar to the preceding, but much larger, with more elongated primaries.

16. *CHÆROCAMPA NEOPTOLEMUS*.*Sphinx neoptolemus*, Cramer, Pap. Exot. iv. p. 23, pl. 301. fig. F (1782).*Isoples neoptolemus*, Hübner, Verz. bek. Schmett, p. 135. no. 1454 (1816).*Chærocampa neoptolemus*, Walker, Lep. Het. viii. p. 134. no. 12 (1856).

Surinam.

Only differs from the preceding in the narrower red band of the secondaries.

17. *CHÆROCAMPA CURVATA*.

♀, *Charocampa curvatus* (sic), Schaufuss, Nunquam Otiosus, i. p. 17 (1870).

Cuba (*Gundlach*).

Allied to the preceding according to the author.

18. *CHÆROCAMPA* ? *BRASILIENSIS*.

Charocampa brasiliensis, Schaufuss, Nunquam Otiosus, i. p. 18 (1870).

Brazil.

The author of this species merely indicates the differences existing between it and "*C. jason*," Linn. That species is not described in the 'Systema Naturæ;' nor is it referred to in Fabricius, Ent. Syst. As he places it next to the *Thorates* of Hübner, I doubt its being a *Charocampa*.

19. *CHÆROCAMPA SCHENKI*.

Charocampa schenki, Möschler, Stett. ent. Zeit. 1872, p. 339.

♂ ♀, Port Natal (*Gueinzus*, *Higgins*).

B.M.

Differs from *C. charis* in its superior size, broader wings, the single silver line on the body, and the single brown line in the whitish band of primaries.

20. *CHÆROCAMPA CHARIS*.

Charocampa charis, Walker, Lep. Het. viii. p. 136. no. 15 (1856).

Port Natal (*Plant*, *Gueinzus*, *Stevens*).

Type, B.M.

This and the preceding species have much the aspect of *Deilephila*.

21. *CHÆROCAMPA CELERIONINA*.

Charocampa celerionina, Walker, Lep. Het. viii. p. 136. no. 16 (1856).

Congo (*Richardson*).

Type, B.M.

Perhaps a faded example of the preceding.

22. *CHÆROCAMPA OSIRIS*.

Deilephila osiris, Dalman, Analecta Entom. p. 48. no. 21 (1823); Boisduval, Icon. Hist. Lép., Sph. p. 18, pl. 49. fig. 1 (1832).

Charocampa osiris, Walker, Lep. Het. viii. p. 135. no. 14 (1856).

Natal (*Gueinzus*); Madagascar (*Pfeiffer*) ———? (*Doubleday*); Sierra Leone (*Morgan*). B.M.

23. *CHÆROCAMPA CELERIO*.

Sphinx celerio, Linnæus, Syst. Nat. i. 2, p. 800 (1766); Cramer, Pap. Exot. ii. p. 42, pl. 25. fig. E (1779).

Hippotion celerio, Hübner, Verz. bek. Schmett. p. 135. no. 1450 (1816).

Charocampa celerio, Stephens, Cat. Brit. Lep. p. 28.

Deilephila celerio, Stephens, Ill. Brit. Ent. Haust. i. p. 128 (1828).

Hippotion ocys, Hübner, Verz. bck. Schmett. p. 135. no. 1451 (1816)

Deilephila inquilina, Harris, Ex. p. 93, pl. 28. fig. 1.

England (*British Coll.*); Natal (*Krauss, Guenzius*); Zoolu country (*Angas*); South Africa (*Smith*); Cape, Teneriffe, North India (*Argent, Stevens*); Borneo (*Lowe*); Java (*Horsfield*); Fiji (*Voy. Herald*); Australia (*Stutchbury*); South Australia (*Bakewell*); Sidney (*Lambert*). B.M.

The examples from Australia and the Fiji Islands are more brilliantly silvered than those from other parts of the world; otherwise there is no variation in the species.

24. CHÆROCAMPA BOISDUVALII.

Deilephila boisduvalii, Bugnion, Ann. Soc. Ent. France, 1839, p. 115.

Deilephila cretica, Boisduval, Icon. Hist. Lép., Sph. p. 20. no. 2, pl. 49. fig. 2 (1832).

Caucasus.

Intermediate in character between the *C. celerio* and *C. oldenlandiæ* groups; Hopffer, in the Stettin. ent. Zeit. p. 42. no. 130 (1874), remarks of *C. lucasii*, "Lucasii wird kaum als Varietät von Boisduval's *cretica* zu trennen sein," an idea as absurd as it is original; the paper in which it appears is full of equally useful and suggestive observations, the only synonymic notes of any value being, almost without exception, adopted from previously published Lepidopterous Catalogues and their "Errata;" he has, however, rightly restored *Daphnis hypothoïs* to its genus, which Walker had most incomprehensibly failed to do.

25. CHÆROCAMPA CELÆNO.

Sphinx celæno, Esper, Schmett. ii. tab. xxviii. Cont. iii. fig. 2 (1779).

Sphinx gordius, Cramer, Pap. Exot. iv. p. 147, pl. 367. fig. A (1782).

Chærocampa gordius, Walker, Lep. Hct. viii. p. 138. no. 19 (1856).

Natal (*Guenzius*); Cape (*Drège*); Zoolu (*Angas*); South Africa (*Pamplin*). B.M.

Esper's figure unquestionably represents the *Sphinx gordius* of Cramer.

26. CHÆROCAMPA CAIUS.

Sphinx cajus, Cramer, Pap. Exot. ii. p. 80, pl. 146. fig. F (1779).

Xylophanes cajus, Hübner, Verz. bck. Schmett. p. 136. no. 1459 (1816).

Chærocampa caius, Walker, Lep. Hct. viii. p. 139. no. 20 (1856).

Cape.

Mr. Walker queries this as *C. oldenlandiæ*, var.; I believe myself that it is a bad representation of *C. celæno*.

27. CHÆROCAMPA SACLAVORUM.

Deilephila sacclavorum, Boisduval, Faune Ent. de Madag. p. 71. no. 1, pl. 10. fig. 6 (1833).

Madagascar.

This species may perhaps belong to the *D. clotho* group.

28. *CHÆROCAMPA DRANCUS*.

Sphinx drancus, Cramer. Pap. Exot. ii. p. 56, pl. 132. fig. F (1779).

Xylophanes drancus, Hübner, Verz. bek. Schmett. p. 136. no. 1460 (1816).

Chærocampa drancus, Walker, Lep. Het. viii. p. 133. no. 9 (1856).

Chærocampa druucus (sic), Proc. Ent. Soc. Phil. 1861, Index.

“East Indies” (*Cramer*).

29. *CHÆROCAMPA OLDENLANDIÆ*. (Plate XCI. fig. 1.)

Sphinx oldenlandiæ, Fabricius, Sp. Ins. ii. p. 148. no. 37 (1781).

Chærocampa oldenlandiæ, Walker, Lep. Het. viii. p. 142. no. 25 (1856).

Xylophanes gortys, Hübner, Samml. exot. Schmett. Zuträge, figs. 513, 514 (1806).

North India (*James, Argent, Stevens*); Landoor (*Hearsay*); North Bengal (*Saunders*); Shanghai, Java (*Horsfield*). B.M.

The larva is dark slaty-brown, with continuous lateral series of varied but chiefly red-brown ocellated spots; the anterior segments sometimes black laterally and dorsally; the remaining segments sometimes laterally speckled with whitish; the falces, legs, and anal clasps black; a black style-shaped anal horn, much like a needle sticking out of the body; it feeds on *Cissus*, *Colocasia*, and *Balsaminea*.

30. *CHÆROCAMPA ARGENTATA*.

Chærocampa argentata, Butler, P. Z. S. 1875, p. 8, pl. ii. fig. 3.

? *Chærocampa firmata*, Walker, Lep. Het. viii. p. 148. no. 36 (1856).

Deilephila oldenlandiæ, Boisduval, Voy. de l'Astrolabe, Ent. p. 184. no. 2 (1832-35).

Chærocampa oldenlandiæ, Koch, Indo-Austral. Lep.-Fauna, ii. p. 53 (1873).

Moreton Bay (*Gibbons*); Sidney (*Lambert*); North Australia (*Elsey*); Australia (*Stutchbury, Stevenson, Stevens*). Type, B.M.

The only example which could be Walker's type was placed in the collection amongst our examples of *C. oldenlandiæ* without any distinguishing label; it is evident, therefore, that (if it be the type) Mr. Walker must subsequent to his description of the species have considered it identical with *C. oldenlandiæ* and abandoned it, throwing away the ticket; and as none of his types were labelled by him, this act would at once destroy the best means of identifying his species. As it is, the example obtained from Mr. Stevens of *C. argentata* differs in several important points from the description of *C. firmata*.

31. *CHÆROCAMPA ROSINA*.

Chærocampa rosina, Butler, P. Z. S. 1875, p. 248, pl. xxxvii. fig. 6.

Masuri, N.W. Himalayas (*Hutton*).

Type, coll. F. Moore.

32. *CHÆROCAMPA SILHETENSIS*. (Plate XCII. fig. 8.)

Chærocampa silhetensis, Walker, Lep. Het. viii. p. 143. no. 27 (1856); ? Schaufuss, Nunquam Otiosus, p. 17 (1870).

Chærocampa bisecta, Moore, Cat. Lep. E.I. Comp. i. p. 278 (1857).

North India (*Stevens, James*); Silhet (*Stainsforth*); Ceylon (*Templeton*); Borneo (*Lowe, Wallace*); Java (*Horsfield Coll.*) B.M.

The larva is bright green or pale green, with the dorsal area red-brown, with a lateral pale stripe uniting a series of ocellated spots; the green form has also a pale lateral ventral fold, and a dark dorsal line, horn yellow; the dark form has a pale dorsal line, horn red-brown. It feeds on *Colocasia*, according to Mr. Lewis.

33. *CHÆROCAMPA BALSAMINÆ*.

Chærocampa balsaminæ, Walker, Lep. Het. viii. p. 138. no. 18 (1856).

Port Natal (*Plant, Guerinzius*).

B.M.

Allied to *C. japonica*.

34. *CHÆROCAMPA JAPONICA*. (Plate XCI. figs. 7-9.)

Chærocampa japonica, Boisduval, in De l'Orza's Lép. Japonais, p. 36. no. 79 (1869).

Hakodadi (*Stevens, Whitely*); Shanghai (*Fortune*); Japan (*Lewis*).

B.M.

Closely allied to *C. lycetus*, but compared by M. Boisduval to *C. oldenlandiæ*.

The larva, collected by Mr. Lewis in Japan, is either pale green with a darker green white-bordered lateral longitudinal streak from the sixth segment to the horn, or pale clay-colour with a similar streak, sometimes with the first two or three segments greenish, two or three lateral ocelli, beginning from the front of the fifth segment, horn, and prolegs reddish; the clay-coloured variety with a lateral series of cornucopia-shaped markings between the spiracles. It feeds on *Cissus*.

35. *CHÆROCAMPA LYCETUS*.

Sphinx lycetus, Cramer, Pap. Exot. i. p. 96, pl. 61. fig. D (1779).

Xylophanes lycetus, Hübner, Verz. bek. Schmett, p. 136. no. 1457 (1816).

Chærocampa lycetus, Walker, Lep. Het. viii. p. 143. no. 26 (1856).

"Bengal" (*Cramer*).

Mr. Walker thinks this may be a variety of *C. oldenlandiæ*; excepting in the silver lines on abdomen, it is more like *C. japonica*.

36. *CHÆROCAMPA LUCASII*.

Chærocampa lucasii, Walker, Lep. Het. viii. p. 141. no. 24 (1856).

North India (*Doubleday, James*); Silhet (*Stainsforth*); Ceylon (*Nietner, Templeton*); Hong-Kong (*Bowring*); Borneo (*Lowe, Wallace*). Type, B.M.

Mr Moore has this species from Silhet and Bombay, also a very dark example from Ceylon; the latter may prove to be distinct.

37. *CHÆROCAMPA COMMINUENS*.

Chærocampa comminuens, Walker, Lep. Het. Suppl. i. p. 31 (1864).

Moreton Bay (*Diggles*).

Type. B.M.

38. *CHÆROCAMPA INORNATA*.

Chærocampa inornata, Walker, Lep. Het. Suppl. i. p. 31 (1864).

North Australia (*Elsey*).

Type, B.M.

39. *CHÆROCAMPA PORCUS*.

Oreus porcus, Hübner, Samml. exot. Schmett. ii. pl. 162 (1806).

Darapsa porcus, Walker, Lep. Het. viii. p. 187. no. 10 (1856).

Chærocampa porcus, Herrich-Schäffer, Corr.-Blatt. 1865, p. 58.

"Tropical Insular District" (*Grote*).

40. *CHÆROCAMPA VELOX*.

Sphinx velox, Fabricius, Ent. Syst. iii. 1, p. 378. no. 68 (1795).

East India.

Seems allied to *C. porcus*, but according to Fabricius comes near *C. tersa*.

41. *CHÆROCAMPA BUTUS*.

Sphinx butus, Cramer, Pap. Exot. ii. p. 88, pl. 152. fig. A (1779).

Darapsa butus, Walker, Lep. Het. viii. p. 186. no. 7 (1856).

? *Chærocampa butus*, Herrich-Schäffer, Samml. auss. Schm. ii. fig. 559 (1869).

Sphinx gnoma, Fabricius, Sp. Ins. ii. p. 152. no. 53 (1781).

Coromandel.

42. *CHÆROCAMPA CYRENE*.

Deilephila cyrene, Westwood, Cab. Orient. Ent. p. 13, pl. 6. fig. 1 (1848).

Chærocampa clotho, var., Walker, Lep. Het. viii. p. 141. no. 23 (1856).

♂ ♀, Java (*Horsfield*).

B.M.

Allied to *C. lucasii*, but lighter and redder in tint, and with usually a larger testaceous patch at anal angle of secondaries; abdomen of female with a distinct black spot on each side at base.

43. *CHÆROCAMPA CLOTHO*.

Sphinx clotho, Drury, Ill. Nat. Hist. ii. p. 48, pl. 28. fig. 1 (1773).

Chærocampa clotho, Walker, Lep. Het. viii. p. 141. no. 23 (1856).

Var.? *Sphinx batus*, Fabricius, Ent. Syst. iii. p. 377. no. 64 (1793).

Silhet (*Sowerby*); North India (*James, Stevens*); Moulmein (*Clerk*); Ceylon (*Templeton*). B.M.

The larva and pupa of *C. clotho* are figured by Dr. Semper, Verhandl. zool.-botan. Gesellsch. Wien, 1867, pl. xxiii. figs. 3a, 3b, 3c.

Mr. Moore has this species from Masuri and Bombay; it varies much in tint.

44. *CHÆROCAMPA PUNCTIVENATA*.

Chærocampa punctivenata, Butler, P. Z. S. 1875, p. 248.

Masuri (*Hutton*); Silhet.

Type, coll. F. Moore.

45. *CHÆROCAMPA BISTRIGATA*.

Chærocampa bistrigata, Butler, P. Z. S. 1875, p. 249.

Java (*Horsfield*).

Colls. Moore and B.M.

46. *CHÆROCAMPA GONOGRAPTA*.

Chærocampa gonograptæ, Butler, P. Z. S. 1875, p. 249.

Bombay and South India.

Type, coll. F. Moore.

47. *CHÆROCAMPA MINOR*.

Chærocampa minor, Butler, P. Z. S. 1875, p. 249.

Masuri (*Hutton*).

Type, coll. F. Moore.

48. *CHÆROCAMPA MAJOR*.

Chærocampa major, Butler, P. Z. S. 1875, p. 249.

Darjeeling (*coll. Moore*); Silhet.

B.M.

49. *CHÆROCAMPA LINEOSA*.

Chærocampa lineosa, Walker, Lep. Het. viii. p. 144. no. 28 (1856).

Silhet (*Stainsforth*).

Type, B.M.

50. *CHÆROCAMPA ANUBUS*.

Sphinx anubus, Cramer, Pap. Exot. ii. p. 46, pl. 128. fig. C (1779).

Chærocampa anubus, Walker, Lep. Het. viii. p. 134. no. 13 (1856).

Brazil, Rio (*Stevens*).

B.M.

Our examples are smaller, paler, and have larger spots on secondaries than the figure by Cramer.

51. *CHÆROCAMPA FALCO*.

Chærocampa falco, Walker, Lep. Het. viii. p. 132. no. 8 (1856).

Mexico (*Doubleday, Hartweg*).

Type, B.M.

52. *CHÆROCAMPA ROBINSONII*.

Chærocampa robinsonii, Grote, Proc. Ent. Soc. Phil. v. p. 54, pl. 1. fig. 2 (1865); Herrich-Schäffer, Samml. ausseur. Schm. ii. fig. 555 (1869).

Chærocampa falco, Herrich-Schäffer (nec Walker), Corr.-Blatt. 1863, p. 148.

"Tropical Insular District" (*Grote*).

53. *CHÆROCAMPA TERSA*.

Sphinx tersa, Linnæus, Mantissa, p. 538; Drury, Ill. Nat. Hist. i. p. 61, pl. 28. fig. 3 (1770).

Theretra tersa, Hübner, Verz. bek. Schmett. p. 135. no. 1449 (1816).

Deilephila tersa, Westwood in Drury's Ill. i. p. 56, pl. 28. fig. 3 (1837).

Chærocampa tersa, Harris, Sill. Journ. vol. xxxvi. p. 303 (1839).

Metopsilis tersa, Duncan, Nat. Libr. vol. xxxvii. pl. 5. fig. 1, pl. 6. fig. 1 (1852).

Philampelus tersa, Burmeister, Sph. Bras. Abhandl. naturf. Gesellsch. Halle, p. 61. no. 4 (1855).

? *Sphinx sagittata*, Goeze, Beytr. iii. 2, p. 216. no. 42 (1780).

Brazil (*Mornay*); Mexico (*Hartweg*); Jamaica, St. Thomas (*Hornbeck*); Haiti (*Tweedie*).
B.M.

54. *CHÆROCAMPA?* *HYSTRIX*.

Chærocampa hystrix, Felder, Reise der Nov., Lep., iv. tab. 76. fig. 5 (Nov. 1874).

—— ?

I do not for a moment believe this to be a *Chærocampa*; the form of the palpi and primaries (in Felder's figure) differ entirely from this genus. However, as I have not seen the insect, I leave it provisionally in that group of *Chærocampa* which it most resembles.

55. *CHÆROCAMPA CROTONIS*.

Chærocampa crotonis, Walker, Lep. Het. viii. p. 133. no. 10 (1856).

Venezuela (*Dyson*).

Type, B.M.

56. *CHÆROCAMPA ARISTOR*.

Chærocampa aristor, Boisduval, Léop. Guat. p. 69 (1870).

"Guatemala" (*Boisduval*); Venezuela (*Dyson*).

B.M.

Differs from the preceding species in the colour of the primaries, the less distinct oblique lines crossing them, and the absence of the dorsal grey streak on the body.

57. *CHÆROCAMPA VIRESCENS*. (Plate XCIV. fig. 2.)

Chærocampa virescens, Butler, P. Z. S. 1875, p. 9.

Bogota (*Stevens*).

Type, B.M.

58. CHÆROCAMPA NITIDULA.

Chærocampa nitidula, Clemens, Journ. Acad. Nat. Sci. Phil. 1859, p. 151.

♀ var. *Chærocampa lævis*, Grote & Robinson, Lyc. Nat. Hist. New York, vol. viii. p. 356, pl. 14. fig. 1.
Mexico (*Sallé*). B.M.

Our example is intermediate between *C. nitidula* and *C. lævis*; it possesses the "lateral caputal and thoracic discolorations," and the "abdominal double row of dark brown dots;" the primaries are "sparsely irrorate with black scales, especially terminally;" they also possess the angulated oblique line, but it is not so strongly defined as in Mr. Grote's figure.

59. CHÆROCAMPA VERSUTA.

Chærocampa versuta, Clemens, Journ. Acad. Nat. Sci. Phil. 1859, p. 152.

Mexico.

60. CHÆROCAMPA PROCNE.

Chærocampa procne, Clemens, Journ. Acad. Nat. Sci. Phil. 1859, p. 152.

California.

61. CHÆROCAMPA THALASSINA.

Chærocampa thalassina, Clemens, Journ. Acad. Nat. Sci. Phil. 1859, p. 150. no. 33.

———?

Seems allied to *C. amadis*.

62. CHÆROCAMPA DOCILIS. (Plate XCIV. fig. 1.)

Chærocampa docilis, Butler, P. Z. S. 1875, p. 9, n. 17.

Ecuador (*Buckley*).

Type, B.M.

63. CHÆROCAMPA AMADIS.

Sphinx amadis, Cramer, Pap. Exot. iv. p. 216, pl. 394. fig. C (1782).

Orcus amadis, Hübner, Verz. bek. Schmett. p. 136. no. 1464 (1816).

Chærocampa amadis, Walker, Lep. Het. viii. p. 134. no. 11 (1856).

Surinam.

64. CHÆROCAMPA GUNDLACHII.

Chærocampa gundlachii, Herrich-Schäffer, Corr.-Blatt. 1863, p. 149.

"Tropical Insular District!" (*Grote*).

65. CHÆROCAMPA IRRORATA.

Chærocampa irrorata, Grote, Proc. Ent. Soc. Phil. vol. v. p. 52, pl. 1. fig. 2 (1865).

"Tropical Insular District!" (*Grote*).

66. *CHÆROCAMPA HAITENSIS*.*Chærocampa haitensis*, Butler, P. Z. S. 1875, p. 9. no. 18.Haiti (*Tweedie*).

Type, B.M.

67. *CHÆROCAMPA CHIRON*.*Sphinx chiron*, Drury, Ill. Nat. Hist. i. p. 56, pl. 26. fig. 3 (1770).*Chærocampa chiron* (part.), Walker, Lep. Het. viii. p. 132. no. 7 (1856).Brazil (*Saunders*); Monte Video (*Darwin*).

B.M.

68. *CHÆROCAMPA NECHUS*.*Sphinx nechus*, Cramer, Pap. Exot. vol. ii. p. 125, pl. 178. fig. B (1779).*Theretra nechus*, Hübner, Verz. bek. Schmett. p. 135. no. 1447 (1816).*Chærocampa chiron* (part.), Walker, Lep. Het. viii. p. 132. no. 7 (1856).*Chærocampa hortulanus* (sic), Schaufuss, Nunquam Otiosus, i. p. 18 (1870).Mexico (*Doubleday*).

B.M.

69. *CHÆROCAMPA FUGAX*.*Chærocampa fugax*, Boisduval, Lep. Guat. p. 70 (1870).

Honduras and Mexico.

Apparently allied to *C. ceratomioides*.70. *CHÆROCAMPA CERATOMIOIDES*.♀ *Chærocampa ceratomioides*, Grote & Robinson, Lye. Nat. Hist. vol. viii. p. 358, pl. 14. fig. 2 (1867).*Pergesa anubus*, Walker (nec *Sphinx anubus*, Cramer), Lep. Het. viii. p. 151. no. 3.Brazil (*Becker*); Rio (*Stevens*); Venezuela (*Dyson*).

B.M.

71. *CHÆROCAMPA NESSUS*.*Sphinx nessus*, Drury, Ill. Nat. Hist. ii. p. 46, pl. 27. fig. 1 (1773).*Chærocampa nessus*, Walker, Lep. Het. viii. p. 140. no. 22 (1856).*Sphinx equestris*, Fabricius, Ent. Syst. iii. p. 365. no. 29 (1793).Var. *Chærocampa rubicundus*, Schaufuss, Nunquam Otiosus, i. p. 18 (1870).Silhet (*Stainsforth*); North India (*James*); Moulmein (*Clerck*); Canara (*Ward*); Ceylon (*Templeton*); Hong-Kong (*Bowring*); Java (*Horsfield*).

B.M.

Dr. Schaufuss describes the Javan type.

Mr. Lewis took the larva of *C. nessus* upon the wild yam (*Dioscorea*); it is of a chalky-green colour, whitish above, with paler dorsal and a lateral longitudinal sub-dorsal white streak, also six oblique white stripes between the spiracles, one or two rounded whitish lateral spots on the anterior segments; anal horn yellow, prolegs also yellow.

The dark variety of the larva is pale brick-red above and pale purplish brown below; the lateral longitudinal and oblique lines dusky brown; lateral rounded spots with pale bluish superior areas; anterior segments greyish; horn olivaceous.

72. *CHÆROCAMPA SCROFA*.

Deilephila scrofa, Boisduval, Voy. de l'Astrolabe, Ent. p. 185. no. 3 (1832-35).

Chærocampa scrofa, Walker, Lep. Het. viii. p. 147. no. 35 (1856).

Deilephila porcia, Wallengren, Wien. ent. Monatschr. iv. p. 42 (1860).

South Australia (*Bakewell*); Australia (*Ker*).

B.M.

Dr. Boisduval speaks of this as perhaps only a variety of *thyelia*, a species to which it bears no resemblance.

73. *CHÆROCAMPA IGNEA*.

Chærocampa ignea, Butler, P. Z. S. 1875, p. 10, pl. i. fig. 4.

Moreton Bay (*Gibbons*).

Type, B.M.

This may perhaps be the undescribed form quoted by Koch (Indo-Austral. Lep. Fauna, ii. p. 53, 1873) under the name of *C. bernardus*.

74. *CHÆROCAMPA BRENNUS*.

Sphinx brennus, Cramer, Pap. Exot. iv. p. 233, pl. 398. fig. B (1782).

Amphion brennus, Hübner, Verz. bek. Schmett. p. 135. no. 1445 (1816).

Chærocampa brennus, Walker, Lep. Het. viii. p. 144. no. 29 (1856).

Amboina.

75. *CHÆROCAMPA PALLICOSTA*.

Chærocampa pallicosta, Walker, Lep. Het. viii. p. 145. no. 31 (1856).

Silhet (*Stainsforth*); Hong-Kong (*Harrington*).

Type, B.M.

76. *CHÆROCAMPA EROTUS*.

Sphinx erotus, Cramer, Pap. Exot. ii. p. 12, pl. 104. fig. B (1779).

Chromis erotus, Hübner, Verz. bek. Schmett. p. 138. no. 1479 (1816).

Chærocampa erotus (part.), Walker, Lep. Het. viii. p. 146. no. 34 (1856).

Australia (*Stevens, Stevenson*); Cape York (*Macgillivray*); Solomon Islands (*Brenchley*).

B.M.

All our examples are females; so that I doubt the distinctness of this and the next species. See, however, Koch (Stett. ent. Zeit. 1871, pp. 239-41).

77. *CHÆROCAMPA EROTOIDES*.

Gnathothlibus erotoides, Wallengren, Wien. ent. Monatschrift, iv. p. 43. no. 44 (1860).

Chærocampa erotus (part.), Walker, Lep. Het. viii. p. 146. no. 34 (1856), Suppl. p. 1852 (1866).

Australia (*Becker, Wood*); Navigators' Islands.

B.M.

The typical *C. erotus*, although perhaps a second form of the female of this species, may at once be distinguished by its slightly superior size, deeper colouring, the glossy character of the primaries above, the broader black border to the secondaries, and the deep reddish coloration of the under surface of all the wings, which almost obliterates the mottled hatchings so distinctly seen in *C. erotoides*.

78. CHÆROCAMPA ERAS.

Deilephila eras, Boisduval, Voy. de l'Astrolabe, Ent. p. 185. no. 4 (1832-35); Feisthamel, Mag. de Zool., Ins. pl. 21. fig. 2 (1839).

Darapsa eras, Walker, Lep. Het. viii. p. 186. no. 3 (1856).

Australia.

Nearly allied to the preceding species.

79. CHÆROCAMPA? BATSCII.

Charocampa batschii, Keferstein, Entomol. Notizen, p. 14, fig. 4 (1870).

Madagascar.

I have been unable to obtain the above work, and therefore have failed to identify the species.

Genus 14. DARAPSA, Walker.

Darapsa, Walker, Lep. Het. viii. p. 182. gen. 22 (1856).

This genus was founded upon most heterogeneous material, the first three species being referable to Hübner's genus *Otus*, the fifth to Walker's genus *Diodosida*, the sixth and eighth to the genus *Daphnis* of Hübner, the seventh, ninth and tenth to *Charocampa* of Duponchel; there therefore remains only the fourth species, allied to *Charocampa*, but apparently sufficiently distinct. It differs as follows:—

Primaries comparatively shorter, costal margin more arched at apex, outer margin much arched and shorter, inner margin strongly waved, almost sigmoidal; secondaries comparatively much longer and narrower.

DARAPSA RHODOCERA.

Darapsa rhodocera, Walker, Lep. Het. viii. p. 184. no. 4 (1856).

Haiti.

Type, B.M.

Most like the *C. clotho* group of *Charocampa* in colouring.

Genus 15. DEILEPHILA, Ochsenheimer.

Deilephila, Ochsenheimer, Eur. Schmett. iv. p. 42 (1816).

1. DEILEPHILA LIVORNICA.

Sphinx livornica, Esper, Ausl. Schmett. ii. pp. 87, 196, pl. 8. fig. 4 (1785).

Phryxus livornica, Hübner, Verz. bek. Schmett. p. 137 (1816).

Deilephila livornica, Stephens, Cat. Brit. Lep. Brit. Mus. pt. i. p. 28 (1850).

Sphinx koechlini, Fuessly, Arch. Insectengesch. t. 33. figs. 1-6 (1781).

South France, Turkey (*Loftus*); Landoor (*Hearsay*); North India (*Stevens*). B.M.

The larva of this species has been carefully described by Bignell, Farn, Hobbs, and Hellins (1870).

2. DEILEPHILA LINEATA.

Sphinx lineata, Fabricius, Ent. Syst. p. 541 (1775).

Deilephila lineata, Harris, Cat. N.A. Sph., Sill. Journ. p. 304 (1839).

Sphinx daucus, Cramer, Pap. Exot. ii. p. 41, pl. 125. fig. D (1779).

Deilephila daucus, Stephen, Ill. Brit. Ent., Haust. i. p. 126 (1828).

New York (*Milne*); Nova Scotia, Canada West (*Bush*); California, Oaxaca (*Hartweg*); Haiti (*Tweedie*); St. Thomas (*Hornbeck*); New Granada, Jamaica (*Redman*). B.M.

Larva figured Am. Ent. ii. pp. 257, 258 (1870).

3. DEILEPHILA BIGUTTATA.

Deilephila biguttata, Walker, Lep. Hct. viii. p. 172. no. 15 (1856).

Madagascar (*Stevens*).

Type, B.M.

4. DEILEPHILA OPHELTES.

Sphinx opheltes, Cramer, Pap. Exot. iii. p. 164, pl. 285. fig. B (1782).

Hyles opheltes, Hübner, Verz. bek. Schmett. p. 137. no. 1471 (1816).

Deilephila opheltes, Walker, Lep. Hct. viii. p. 173. no. 17 (1856).

Cape.

5. DEILEPHILA SPINIFASCIA.

Deilephila spinifascia, Butler, Proc. Zool. Soc. p. 81 (1871).

Buenos Ayres (*Burmeister*); Patagonia (*Cunningham*).

Type, B.M.

I believe that this species also occurs in Chili.

6. DEILEPHILA GALII.

Sphinx galii, Fabricius, Sp. Ins. ii. p. 147. no. 33 (1781).

Hyles galii, Hübner, Verz. bek. Schmett. p. 137. no. 1470 (1816).

Deilephila galii, Stephens, Ill. Brit. Ent., Haust. i. p. 125. 2, pl. 12. fig. 2 (1828).

Sphinx euphorbiæ (part), Linnæus, Syst. Nat. i. 2, p. 802. no. 19 (1766).

Europe (*Becker*).

B.M.

Larva described by Newman and Buckler (1870).

7. DEILEPHILA CHAMÆNERII.

Deilephila chamænerii, Harris, Cat. N.-Am. Sph., Sill. Journ. p. 305 (1839).

Sphinx epilobii, Harris (nec Boisd.), Cat. p. 530 (1833).

Deilephila galii (part), Walker, Lep. Het. viii. p. 166. no. 4 (1856).

West Canada (*Bush*); York Factory (*Rae*); United States (*Doubleday*).

B.M.

There is an example of this species in the British cabinet from the Stephensian Collection; other American species are also in this collection.

According to Strecker (Canad. Ent. iv. p. 206) *D. chamænerii* is = *D. galii*.

8. DEILEPHILA INTERMEDIA.

Deilephila intermedia, Kirby, Fauna Amer.-Bor. vol. iv. p. 302 (1837).

"Canada" (*Kirby*).

9. DEILEPHILA CALVERLEYI.

Deilephila calverleyi, Grote, Notes Cub. Sph., Proc. Ent. Soc. Phil. p. 56, pl. 1. fig. 4 (1865).

"Tropical Insular District" (*Grote*).

10. DEILEPHILA COSTATA.

Sphinx (Deilephila) costata, Nordmann, Bull. Soc. Imp. Mosc. ii. p. 444, pl. xi. figs. 3, 4 (1851).

"Neighbourhood of Kjachta" (*Popoff*).

Somewhat like *D. chamænerii*, but the tapering discal band intersected by white nervures.

11. DEILEPHILA DAHLII.

Sphinx dahlîi, Treitschke, Schmett. Eur. x., Suppl. p. 132; Hübner, Samml. eur. Schmett. ii. pl. 36. figs. 161-164.

Deilephila dahlîi, Rambur, Ann. Soc. Ent. France, p. 266 (1832).

Europe (*Becker*); South Europe (*Pierret*).

B.M.

We have what appears to be a hybrid between this species and *D. euphorbiæ* (not unlike Godart's figure of *D. tithymali*, although utterly unlike Boisdual's); it approaches very close to *D. lathyrus* of Walker, from North India, chiefly differing, in fact, in its more vivid colouring.

12. DEILEPHILA TITHYMALI.

Deilephila tithymali, Boisduval, Icon. Hist. Lép., Sph. p. 30, pl. 51. fig. 1 (1832).

Canaries (*Wollaston*).

B.M.

Possibly a variety of the preceding, but without the third black spot on each side of the abdomen, and with the band of primaries sometimes narrower.

13. DEILEPHILA MAURITANICA.

Deilephila mauritanica, Staudinger, Cat. Lep. Europ. Faun. i. p. 36. no. 466 (1871).

Deilephila tithymali, Bellier (nec Boisd.), Ann. Soc. Ent. France, p. 45 (1848), p. 488, pls. ii., iii. (1858).

Deilephila euphorbiæ, Lucas, Expl. Alg. p. 370, pl. ii. fig. 8 (1848).

Mauritania; Madeira.

14. DEILEPHILA ZYGOPHYLLI.

Sphinx zygophylli, Ochsenschleimer, Eur. Schmett. iii. p. 226. no. 5; Hübner, Samml. europ. Schmett. pl. 27. fig. 125.

Deilephila zygophylli, Boisduval, Icon. Hist. Lép., Sph. p. 32. no. 8, pl. 51. fig. 2 (1832).

Shores of the Caspian.

Allied to *D. tithymali*, but smaller.

15. DEILEPHILA EUPHORBIAE.

Sphinx euphorbiæ, Linnæus, Syst. Nat. i. 2, p. 802. no. 19 (1766).

Hyles euphorbiæ, Hübner, Verz. bek. Schmett. p. 137. no. 1475 (1816).

Deilephila euphorbiæ, Curtis, Brit. Ent. i. pl. 3 (1823-40).

Europe (*Becker*).

B.M.

16. DEILEPHILA LATHYRUS.

Deilephila lathyrus, Walker, Lep. Het. viii. p. 172. no. 16 (1856).

North India.

Type, B.M.

Apparently a very common species.

17. DEILEPHILA NICÆA.

Sphinx nicæa, De Prunner, Lep. Pedemont. p. 85 (1798).

Deilephila nicæa, Boisduval, Ind. Méth. p. 47. no. 381.

Hyles nicea (sic), Hübner, Verz. bek. Schmett. p. 137. no. 1474 (1816).

Sphinx cyparissia, Hübner, Samml. eur. Schmett. ii. pl. 24. fig. 115.

South Europe (*Becker*).

B.M.

18. DEILEPHILA ANNEI.

Sphinx annei, Guérin, Mag. de Zool. 2nd ser. i. Ins. pl. 2 (1839).

Santiago, Chili.

In the coloration and pattern of the wings this species nearly approaches *D. hippophaës*; but in size and the tint of the primaries it seems to come nearer to *D. nicæa*. The body is peculiar, the abdomen being white at the sides, interrupted by five transverse black spots; in this respect it resembles *D. spinifascia*.

19. DEILEPHILA ESULÆ.

Deilephila esulæ, Boisduval, Icon. Hist. Lép., Sph. p. 26. no. 5, pl. 50. fig. 1.

Calabria.

Nearly allied to *D. hippophaës*.

20. DEILEPHILA BIENERTI.

Deilephila bienerti, Staudinger, Stett. ent. Zeit. xxxv. p. 91 (1874).

Persia.

Size of the largest examples of *D. hippophaës*, to which it is nearly allied.

21. DEILEPHILA HIPPOPHAËS.

Sphinx hippophaës, Esper, Eur. Schmett. ii. p. 6, pl. 38. figs. 1, 2 (1777).

Hyles hippophaës, Hübner, Verz. bek. Schmett. p. 137. no. 1473 (1816).

Deilephila hippophaës, Boisduval, Ind. Méth. p. 47. no. 388.

Hybrid. *Sphinx vespertilioides*, Boisduval, Ann. Soc. Linn. Paris, vol. vi. pl. 6. fig. 4 (1827).

Deilephila vespertilioides, Boisduval, Icon. Hist. Lép., Sph. p. 22. no. 3, pl. 49. fig. 3 (1832).

Hybrid. *Deilephila epilobii*, Boisduval, loc. cit. p. 24. no. 4, pl. 51. fig. 3 (1832).

Europe (*Becker*).

B.M.

D. epilobii seems scarcely to differ from *D. hippophaës*, excepting in the more decided markings of primaries. *D. vespertilioides* is apparently a hybrid between *D. hippophaës* and *D. vespertilio*, and is quite intermediate in character between them.

22. DEILEPHILA VESPERTILIO.

Sphinx vespertilio, Fabricius, Sp. Ins. ii., Append. p. 504 (1781).

Thaumas vespertilio, Hübner, Verz. bek. Schmett. p. 138. no. 1476 (1816).

Deilephila vespertilio, Walker, Lep. Het. viii. p. 169. no. 10 (1856).

Europe (*Becker*).

B.M.

Characteristically figured by Hübner, Samml. eur. Schmett. ii. pl. 21. figs. 103, 104; a variety, pl. 11. fig. 62; he also figures the larva.

Genus 16. DAPHNIS, Hübner.

Daphnis, Hübner, Verz. bek. Schmett. p. 134 (1816).

1. DAPHNIS NERII.

Sphinx neri, Linnæus, Syst. Nat. i. 2, p. 798. no. 5 (1766); Roesel, Ius. Belust. iii. p. 85, pl. 15. figs. 1-3, pl. 16. figs. 4-6 (1755).

Daphnis neri, Hübner, Verz. bek. Schmett. p. 134. no. 1441 (1816).

Cherocampa neri, Curtis, Brit. Ent. xiii. pl. 626.

Deilephila neri, Boisduval, Faune Ent. de Madag. p. 74. no. 6 (1833).

Italy (*Leach*); Athens (*Merlin*); East India, Canara (*Ward*); Mauritius (*Beke*); Natal (*Gueinzius*). B.M.

The examples mentioned by Mr. Walker as coming from Ceylon are sexes of *D. hypochoüs* of Cramer.

2. DAPHNIS HYPOTHOÛS.

Sphinx hypochoüs, Cramer, Pap. Exot. iii. p. 165, pl. 285. fig. F (1782).

Daphnis hypochoüs, Hübner, Verz. bek. Schmett. p. 134. no. 1440 (1816).

Darapsa hypochoüs (part.), Moore, Cat. Lep. E.I. Comp. p. 271. no. 627, pl. x. figs. 2, 2a, transformations (1857).

♂ ♀, Ceylon (*Templeton*); Java (*Horsfield*); Labuan and Sarawak (*Low*). B.M.

The larva of *D. hypochoüs* is figured in Horsfield and Moore's Catalogue, pl. x. fig. 2.

3. DAPHNIS PALLESCENS.

Daphnis pallescens, Butler, P. Z. S. 1875, p. 6.

Queensland (*Janson*).

Type, B.M.

4. DAPHNIS PROTRUDENS.

Daphnis protrudens, Felder, Reise der Nov., Lep. iv. tab. lxxvi. fig. 7 (Nov. 1874).

———?

Allied to the preceding.

5. DAPHNIS ANGUSTANS.

Daphnis angustans, Felder, Reise der Nov., Lep. iv. tab. lxxvi. fig. 6 (Nov. 1874).

———?

Allied to the succeeding species, but altogether darker and differently coloured.

6. DAPHNIS HORSFIELDII, n. sp.

Darapsa hypochoüs, Walker (nec Cramer), Lep. Het. viii. p. 185. no. 6 (1856).

Darapsa hypochoüs ♂, Moore, Cat. Lep. E.I. Comp. p. 271. no. 627 (1857).

Smaller than *D. hypochoüs*; primaries with the outer margin much more waved,

acutely pointed at apex; colours similar but less green; the subbasal pale band wider; the broad band crossing the middle of the wing replaced by a broad nebulous area, crossed by an angular band of olive-brown; no white spot at apex; secondaries altogether redder, especially towards apex; underside altogether paler and testaceous instead of rosy. Expanse of wings, ♂ 2 inches 9 lines, ♀ 3 inches 3 lines.

♂ ♀, Java (*Horsfield*).

Type, B.M.

The pupa-skin of the female shows that this species differs in that stage from *D. hypothoüs* by being much less heavily spotted with black longitudinally; the two species, however, are so abundantly distinct that it does not require differences in the early stages to separate them with ease.

7. *DAPHNIS MINIMA*, n. sp. (Pl. XCII. fig. 5.)

Much like a minute, pale, undercoloured *D. horsfieldii*. Wings above whity brown or brownish grey; primaries crossed by a basal and an angulated central clay-coloured band; a brown-edged greyish transverse discal line; outer margin, especially near apex, chocolate-brown; inner margin chocolate-brown at external angle; discal area from external angle to end of cell suffused with clay-colour; secondaries with external two thirds reddish-brown, interrupted by a disco-submarginal whitish line from anal angle to apical costa: body as in *D. horsfieldii*, but paler: wings below nearly as in *D. horsfieldii*; no white point in cell of secondaries. Expanse of wings 1 inch 9 lines.

South India (*S. N. Ward*).

Type, Coll. F. Moore.

By far the smallest species in the genus. The larva is golden green, with a lateral white-dotted longitudinal blue line, and above it a reddish orange line, terminating towards the head in two small white-zoned black ocelli; the lateral and ventral surfaces are covered with granular white dots; the feet, claspers, and horn orange; the latter black-tipped; spiracles reddish orange; an oblique white line on anal claspers.

8. *DAPHNIS PLACIDA*.

Darapsa placida, Walker, Lep. Het. viii. p. 186. no. 8 (1856).

Sumatra.

9. *DAPHNIS BHAGA*.

Darapsa bhaga, Moore, P. Z. S. 1865, p. 794.

N.E. Bengal (*Russell*).

Type, Coll. F. Moore.

A very remarkable species, having a long curved apical hook to the primaries.

Genus 17. PHILAMPELUS, Harris.

Philampelus, Harris, Amer. Journ. Sci. vol. xxxvi. p. 299 (1839).

Section DUPO, Hübner.

1. PHILAMPELUS VITIS.

Sphinx vitis, Linnæus, Mus. Lud. Ulr. p. 354 (1764).

Philampelus vitis, Harris, Sill. Journ. vol. xxxvi. p. 299 (1839).

Sphinx fasciatus, Sulzer, Gesch. Ins. p. 151, pl. 20. fig. 1 (1776).

Philampelus fasciatus, Herrich-Schäffer, Corr.-Blatt. 1865, p. 58.

♂ *Eumorpha elegans jussieuæ*, Hübner, Samml. exot. Schmett. i. pl. 169. figs. 1, 2 (1806).

♀ *Dupo jussieuæ*, Hübner, Samml. exot. Schmett. ii. pl. 163. figs. 3, 4 (1806).

Philampelus jussieuæ, Walker, Lep. Het. viii. p. 177. no. 6 (1856).

Mexico (*Sallé*); west coast of South America (*Kellet & Wood*); Haiti (*Tweddie*); Jamaica (*Redman, Gosse*); Brazil (*Stevens*). B.M.

Mr. Grote has very rightly restored Linnæ's name to this species, the figure referred to in the original description (Merian, Surin. 47, t. 47. f. 1—that is, the upper figure) being evidently intended for the *S. fasciatus* of Sulzer (*Eumorpha jussieuæ*, Hübner.).

2. PHILAMPELUS LINNEI.

Philampelus linnei, Grote & Robinson, Proc. Ent. Soc. Phil. vol. v. pp. 157, 179, 182, pl. 3. fig. 3 (1865).

Sphinx vitis, Cramer, Pap. Exot. vol. iii. pl. 268. fig. E (1782).

Dupo vitis, Hübner, Verz. bek. Schmett. p. 137. no. 1466 (1816).

Philampelus vitis, Walker, Lep. Het. viii. p. 176. no. 4 (1856).

Philampelus fasciatus, Grote, Notes Cub. Sph., Proc. Ent. Soc. Phil. vol. v. pp. 59, 84 (1865).

Mexico (*Hartweg*); Haiti (*Cuming & Tweddie*); — ? (*Stevens*). B.M.

3. PHILAMPELUS HORNBECKIANA.

Philampelus hornbeckiana, Harris, Cat. N.-Am. Sph., Sill. Journ. p. 299 (1839).

“St. Thomas, West Indies.”—*Harris*.

Apparently allied to the preceding.

4. PHILAMPELUS STRENUUS.

Charocampa strenua, Ménétriés, Enum. Corp. Anim. Mus. Ac. Sci. Petrop., Ins. Lép. ii. p. 132, pl. 12. fig. 3 (1857); Walker, Lep. Het., Suppl. i. p. 30 (1864).

Philampelus strenuus, Grote, Proc. Ent. Soc. Phil. vol. v. pp. 60, 157 (1865).

“Haiti.”—*Ménétriés*.

Allied to *P. linnei*.

5. PHILAMPELUS TYPHON.

Sphinx typhon, Klug, Neue Schmett. Heft i. pl. 3. fig. 1 (1836).

Philampelus typhon, Walker, Lep. Het. viii. p. 177. no. 5 (1856).

Mexico (*Doubleday*).

B.M.

Section PHILAMPELUS (Harris), Grote.

Philampelus, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 21 (1873).

6. PHILAMPELUS ACHEMON.

Sphinx achemon, Drury, Ill. Nat. Hist. vol. ii. p. 51, pl. 29. fig. 1 (1773).

Philampelus achemon, Harris, Sill. Journ. vol. xxxvi. p. 300 (1839); Scudder, Harris Corresp. p. 283, pl. 3. fig. 11 (1869).

Sphinx crantor, Cramer, Pap. Exot. ii. p. 11, pl. 104. fig. A (1779).

Pholus crantor, Hübner, Verz. bck. Schmett. p. 134. no. 1435 (1816).

New York (*Doubleday*).

B.M.

Transformations figured (Am. Ent. ii. pp. 22–24, 1870).

7. PHILAMPELUS POSTICATUS.

Philampelus posticatus, Grote, Proc. Ent. Soc. Phil. vol. v. p. 62 (1865).

Pholus licaon, Hübner (nec Cramer), Samml. exot. Schmett. ii. pl. 160. figs. 3, 4 (1806).

Philampelus lycaon (part.), Grote, Proc. Ent. Soc. Phil. vol. v. p. 157. no. 54 (1865).

Philampelus satellitia (part.), Walker (nec Linnæus), Lep. Het. viii. p. 175. no. 3 (1856).

Bolivia (*Bridges*).

B.M.

The rose colour at anal angle of secondaries is more strongly pronounced in our example than in Hübner's figure.

8. PHILAMPELUS MIRIFICATUS.

Philampelus (Dupo) mirificatus, Grote, Bull. Buff. Soc. Nat. Sci. ii. p. 148 (1874).

Cuba (*Wright*).

"Allied to *P. posticatus*, *P. linnei*, and *P. strenuus*; from all differing by the white linear bands on the fore wings and their apical white line, and by the distinctly white-banded abdomen and tegulæ."

"While nearest to *P. posticatus* in the appearance of the hind wings, it is most dissimilar in the markings of the primaries, which are more like those of *P. linnei* in the evenness of the ground-colour."

9. PHILAMPELUS PANDORUS.

Daphnis pandorus, Hübner, Samml. exot. Schmett. ii. pl. 161. figs. 3, 4.

Philampelus pandorus, Walker, Lep. Het. viii. p. 174. no. 1 (1856).

Sphinx satellitia ♂, Drury (nec Linnæus), Ill. Nat. Hist. i. pl. xxix. fig. 2 (1770).

VOL. IX.—PART X. No. 9.—November, 1876.

4 H

United States (*Doubleday*); North America (*Hardwicke*); Jamaica.

B.M.

I believe that Mr. Walker was quite right in separating this species from *P. satellitia* of Linnæus (see Drury, pl. 29. fig. 1); the male of that species does not differ in size or colouring, but slightly in form and pattern, from the female. *P. pandorus* is, in fact, allied to *P. licaon*, Cramer (nec Hübner) more nearly than to *P. satellitia*; it shows also traces of affinity to *P. achemon* in the more angulated form of the line defining the clouded discal area of primaries.

10. PHILAMPELUS EACUS.

Sphinx eacus, Cramer, Pap. Exot. iii. p. 166, pl. 285. fig. E (1782).

Philampelus eacus, Walker, Lep. Het. viii. p. 179. no. 9 (1856).

Surinam.

This appears to me to be a variety of *P. pandorus*.

11. PHILAMPELUS CISSI.

Philampilus cissi (sic), Schaufuss, Nunquam Otiosus, i. p. 19 (1870).

Venezuela.

Probably the male of *P. satellitia*, but so imperfectly described that it is impossible to identify it with certainty.

12. PHILAMPELUS LYCAON.

Sphinx licaon, Cramer, Pap. Exot. i. p. 86, pl. 55. fig. A (1779).

Philampelus lycaon, Grote, Proc. Ent. Soc. Phil. vol. v. pp. 60, 81, 157 (1865).

Philampelus satellitia (part.), Walker, Lep. Het. viii. p. 175. no. 3 (1856).

Mexico (*Sallé*).

B.M.

This species is of a redder tint than *P. satellitia*; the primaries exhibit more markedly than in any of the other species the apparent division into a basi-internal light and an apical dark area; the hind wings have no rosy flush (as in Hübner's species) at anal angle of secondaries; but they have on the underside an indistinct rusty reddish apical spot on secondaries. The insect is, as Cramer says, "*en dessous de couleur minium et vers les pointes des ailes inférieures de couleur rousse*." Mr. Grote appears to have misunderstood this description.

13. PHILAMPELUS SATELLITIA.

Sphinx satellitia, Linnæus, Mantissa, i. p. 539; Drury, Ill. Nat. Hist. i. pl. 29. fig. 1 (1770).

Philampelus satellitia, Harris, Sill. Journ. vol. xxxvi. p. 299 (1839).

♂ ♀. Honduras (*Dyson*); Jamaica.

B.M.

Transformations figured, Am. Ent. ii. pp. 22-24 (1870).

14. *PHILAMPELUS ANCHEMOLUS*.

Sphinx anchemolus, Cramer, Pap. Exot. iii. p. 50, pl. 224. fig. C (1782).

Philampelus anchemolus, Walker, Lep. Het. viii. p. 178. no. 8 (1856).

Philampelus satellitia (part.), Walker, *l. c.* p. 175. no. 3 (1856).

Rio Janeiro (*Stevens*); west coast of South America (*Kellett & Wood*). B.M.

A larger and more heavily-coloured species than the preceding, the sides of the body much redder; with other less evident differences.

15. *PHILAMPELUS HELOPS*.

Philampelus helops, Walker, Lep. Het. viii. p. 180. no. 12 (1856).

Philampelus orientalis, Felder, Reise der Nov., Lep. iv. tab. 77. fig. 1 (1874).

"Port Natal (*Krauss*)."—Walker.

Type, B.M.

I have examined a specimen of this species taken by Mr. W. L. Distant in Penang. It differs in no respect from the type; and therefore I have little doubt that our locality is wrong. Mr. Moore has a pale example taken by Mr. Grote in North India.

Section ARGEUS, Hübner (*Chlorina*, Guénée).

Arges, Hübner, Verz. bek. Schmett. p. 134. no. 3 (1816).

16. *PHILAMPELUS MEGÆRA*.

Sphinx megæra, Linæus, Mus. Lud. Ulr. p. 358 (1764); Clereck's *Icones*, pl. 47. fig. 2.

Philampelus megæra, Walker, Lep. Het. viii. p. 179. no. 11 (1856).

Port Natal (*Stevens & Gooch*); Ashanti.

B.M.

It is evident from M. Guénée's note on "*Chærocampa megæra*," and his description of a new genus to receive it, that he had neglected to examine Mr. Walker's Catalogue, and consequently was not aware that recent naturalists had moved *Sphinx megæra* to *Philampelus*.

The example of *P. megæra* received from Mr. Gooch has the abdomen red.

17. *PHILAMPELUS PHORBAS*.

♀. *Sphinx phorbas*, Cramer, Pap. Exot. i. p. 86, pl. 55. fig. B (1779).

Philampelus phorbas, Walker, Lep. Het. viii. p. 179. no. 10 (1856).

♂. *Sphinx pandion*, Cramer, Pap. Exot. iv. p. 65, pl. 321. fig. A (1782).

Arges pandion, Hübner, Verz. bek. Schmett. p. 134. no. 1443 (1816).

"Surinam."—Cramer.

Closely allied to *P. megæra*.

18. *PHILAMPELUS LACORDAIREI*.

Deilephila lacordairei, Boisduval, Faune Ent. de Madag. p. 73. no. 5, pl. 11. fig. 1 (1853).

Chlorina Megæra, Guénée (nee Linn.), Notes sur l'île de la Réunion, Lép. p. 22. no. 21 (1862).

Madagascar and Bourbon.

I have seen an example of this species formerly in Mr. Herbert Sharpe's collection; it is allied to the two preceding species.

19. PHILAMPELUS LABRUSCÆ.

Sphinx labruscæ, Linnæus, Mus. Lud. Ulr. p. 352 (1764); Clerck's *Icones*, pl. 47. fig. 3.

Eumorpha elegans labruscæ, Hübner, Samml. exot. Schmett. i. pl. 167. figs. 1, 2 (1806).

Arges labruscæ, Hübner, Verz. bek. Schmett. p. 134. no. 1442 (1816).

Mexico, Jamaica (*Gosse*); Haiti (*Tweedie*); Venezuela (*Dyson*); Columbia. B.M.

Genus 18. PACHYLIA, Walker.

Pachylia, Walker, Lep. Het. viii. p. 189. gen. 24 (1856).

1. PACHYLIA FICUS.

Sphinx ficus, Linnæus, Mus. Lud. Ulr. p. 352 (1764); Clerck's *Icones*, pl. 49. fig. 2.

Pholus ficus, Hübner, Verz. bek. Schmett. p. 134 (1816).

Pachylia ficus (part.), Walker, Lep. Het. viii. p. 189. no. 1 (1856).

Chærocampa crameri, Ménétriés, Enum. Corp. Anim. Mus. Imp. Acad. Sci. Petrop. ii. p. 133 (1857).

Var. *Pachylia venezuelensis*, Schaufuss, Nuuquam Otiosus, i. p. 16 (1870).

Mexico (*Hartweg*); Haiti (*Tweedie*). B.M.

2. PACHYLIA UNDATIFASCIA, n. sp.

Nearly allied to *P. ficus*, but more ochraceous in tint; all the transverse lines much less defined (scarcely perceptible in the male); secondaries with the central black bar distinctly waved, not denticulate; discal line indistinct; body with the transverse darker bars much less distinct; wings below much more ochreous, the transverse lines obsolete. Expanse of wings—♂ 4 inches 4 lines, ♀ 5 inches 2 lines.

♂, Haiti (*Tweedie*); ♀, "Brazil." Type, B.M.

Possibly an extreme variety of *P. ficus*; but the two males look very distinct.

3. PACHYLIA? MOLUCCA.

Eurypteryx molucca, Felder, Reise der Nov., Lep. iv. pl. lxxvi. fig. 1 (1874).

——?

4. PACHYLIA SYCES.

Enyo syces, Hübner, Verz. bek. Schmett. p. 132. no. 1424 (1816).

Sphinx ficus, Cramer, Pap. Exot. iv. p. 216, pl. 394. fig. D (1782).

Pachylia ficus (part.), Walker, Lep. Het. viii. p. 189. no. 1 (1856).

Chærocampa ficus, Ménétriés, Enum. Corp. Anim. Mus. Imp. Acad. Sci. Petrop. ii. p. 133 (1857).

Pachylia inornata, Clemens, Journ. Acad. Nat. Sci. Phil. p. 159 (1859).

♂, Brazil (*Stevens*); ♀, Jamaica (*Argent*); ♂, Haiti (*Tweedie*).

B.M.

I have to thank Mr. Kirby for calling my attention to Hübner's name for this species.

5. *PACHYLIA RESUMENS*.

Pachylia resumens, Walker, Lep. Het. viii. p. 190. no. 2 (1856); Herrich-Schäffer, Samml. auss. Schmett. ii. fig. 556 (1869).

Haiti (*Tweedie*); Honduras (*Dyson*); Rio Janeiro (*Stevens*).

Type, B.M.

6. *PACHYLIA INCONSPICUA*.

Pachylia inconspicua, Walker, Lep. Het. viii. p. 190. no. 3 (1856).

Jamaica.

Subfamily III. AMBULICINÆ.

Genus 1. AMBULYX, Walker.

Ambulyx, Walker, Lep. Het. viii. p. 120. gen. 11 (1856).

1. AMBULYX STRIGILIS.

Sphinx strigilis, Linnæus, Mant. i. p. 538 (1771); Cramer, Pap. Exot. ii. pl. 106. fig. B (1779).

Sphinx strigiles (sic), Drury, Ill. Nat. Hist. i. p. 62, pl. 28. fig. 4 (1770).

Pholus strigilis, Hübner, Verz. bek. Schmett. p. 113. no. 1437 (1816).

Ambulyx strigilis, Walker, Lep. Het. viii. p. 121. no. 1 (1856).

Haiti (*Tweedie*); west coast of South America (*Kellett & Wood*); Brazil (*Saunders*); Rio Janeiro (*Stevens*); Pará (*Bates*).

Var. *rubripennis*. Primaries much darker, the transverse lines and spots blacker, the hatchings less distinct; secondaries reddish castaneous, transverse lines obsolete; body less yellowish; wings below altogether darker and redder, transverse lines obsolete; whitish border of outer margin diffused internally. 4 inches to 5 inches 1 line.

Haiti (*Tweedie*). Two specimens.

B.M.

This may possibly be specifically distinct, but I think not.

2. AMBULYX EURYCLES.

Ambulyx eurycles, Herrich-Schäffer, Aussercurop. Schmett. pl. 22. fig. 102 (1850-58).

Surinam.

Scarcely distinct from *A. strigilis*, so far as I can remember. Unfortunately, not having the above work by me, I have been obliged to depend upon notes made from it.

3. AMBULYX SUBSTRIGILIS.

Sphinx (Ambulyx) substrigilis, Westwood, Cab. Orient. Ent. p. 61, pl. 30. fig. 2.

Silhet (*Stainsforth*).

Type, B.M.

Allied to *A. strigilis*. Mr. Moore has specimens from Darjeeling.

4. *AMBULYX MACULIFERA*.

Ambulyx maculifera, Walker, Lep. Het., Suppl. v. p. 1851 (1866).

Darjeeling (*Russell*).

Type, B.M.

Allied to the preceding species. Mr. Moore's examples of this species are rather less dusky than the type.

5. *AMBULYX LITURATA*. (Pl. XCI. figs. 2, 3.)

Ambulyx liturata, Butler, P. Z. S. 1875, p. 250.

——?

♂ ♀ Type, coll. F. Moore.

6. *AMBULYX RHODOPTERA*. (Pl. XCIII. fig. 8.)

Ambulyx rhodoptera, Butler, P. Z. S. 1875, p. 251.

Darjeeling.

Type, coll. F. Moore.

7. *AMBULYX SUBOCELLATA*.

Ambulyx subocellata, Felder, Reise der Nov., Lep. iv. tab. lxxvi. fig. 3 (Nov. 1874).

——?

Allied to the preceding species, and still more closely to *A. moorei*.

8. *AMBULYX SERICEIPENNIS*.

Ambulyx sericeipennis, Butler, P. Z. S. 1875, p. 251.

Massuri, N.W. Himalayas (*Hutton*).

Type, coll. F. Moore.

9. *AMBULYX LAHORA*. (Pl. XCIII. fig. 9.)

Ambulyx lahora, Butler, P. Z. S. 1875, p. 251.

N.W. Himalayas.

Type, coll. F. Moore.

10. *AMBULYX TURBATA*. (Pl. XCIII. fig. 7.)

Ambulyx turbata, Butler, P. Z. S. 1875, p. 252.

Darjeeling.

Type, coll. F. Moore.

Var. Canara, South India.

Coll. F. Moore.

11. *AMBULYX MOOREI*, n. sp.

Ambulyx moorei, Butler, P. Z. S. 1875, p. 10.

Java (*Horsfield*).

Type, B.M.

12. *AMBULYX*? *CONSTRIGILIS*.

Ambulyx constrigilis, Walker, Characters of Lepidoptera Heterocera from Congo, p. 4. no. 2 (1869).

Congo.

Judging from the description alone, I rather doubt this being a true *Ambulyx*.

13. *AMBULYX* *CANESCENS*.

Basiana? *canescens*, Walker, Lep. Het., Suppl. i. p. 38 (1864).

Cambodia.

Unquestionably an *Ambulyx*, apparently allied to *A. liturata*, but without the dark spots at base of primaries.

14. *AMBULYX* *TIGRINA*.

Ambulyx tigrina, Felder, Reise der Nov., Lep. iv. tab. lxxvii. fig. 4 (Nov. 1874).

——?

Allied to *A. gannascus*, but with the hind wings golden yellow. It comes in well between the *A. strigilis* and *A. gannascus* groups.

15. *AMBULYX* *GANNASCUS*.

Sphinx gannascus, Stoll, Pap. Exot. p. 157. no. 3, pl. 35. figs. 3, 3b (1791).

Ambulyx gannascus, Burmeister, Sph. Bras., Abhandl. naturf. Gesellsch. Halle, p. 72 (1855).

Amblypterus ganascus (sic), Hübner, Verz. bek. Schmett. p. 133. no. 1429 (1816).

Ambulyx ganascus (sic), Walker, Lep. Het. viii. p. 121. no. 2 (1856).

Jamaica (*Gosse*).

B.M.

16. *AMBULYX* *ROSTRALIS*.

Ambulyx rostralis, Boisduval, Lép. Guat. p. 68 (1873); Felder, Reise der Nov., Lep. iv. tab. lxxvii. fig. 6 (Nov. 1874).

Amazons (*Bates*); Brazil (*Stevens*),

B.M.

According to Boisduval, from Nicaragua and New Granada.

17. *AMBULYX* *MARGINATA*.

Ambulyx marginata, Butler, P. Z. S. 1875, p. 10.

Rio Janeiro (*Stevens*).

Type, B.M.

18. *AMBULYX* *EURYSTHENES*.

*Ambulyx eurysthene*s, Felder, Reise der Nov., Lep. iv. tab. lxxvii. fig. 5 (Nov. 1874).

——?

Allied to the preceding species.

19. *AMBULYX*? *HYPOSTICTA*.

Ambulyx hyposticta, Felder, Reise der Nov., Lep. iv. tab. lxxvii. figs. 2, 3 (Nov. 1874).

——?

Not nearly allied to any known species.

20. *AMBULYX*? *SCHAUFFELBERGERI*.

Ambulyx schauffelbergieri, Bremer & Grey, Beitr. Schmett. Faun. nördl. Chinas, p. 53.

Ambulyx substrigilis, var.?, Walker, Lep. Het. viii. p. 123. no. 5 (1856).

North China.

21. *AMBULYX* *RUBRICOSA*.

Ambulyx rubricosa, Walker, Lep. Het. viii. p. 122. no. 4 (1856).

Basiana superba, Moore, P. Z. S. 1865, p. 793.

Darjeeling (*Grote*); Calcutta.

Coll. F. Moore.

Mr. Walker's description of this marvellously beautiful insect is very poor; I should never have recognized it. Fortunately Mr. Moore has been enabled to compare the types of *A. rubricosa* and *B. superba*, and finds them to be synonymous.

22. *AMBULYX* *SEXOCULATA*.

Ambulyx sexoculata, Grote, Ann. Lye. Nat. Hist. New York, viii. p. 204 (1867).

Brazil (*Grote*).

We have an *Ambulyx* from Guatemala, placed by Mr. Walker with *A. gannascus*, which so nearly agrees with the description of the above, that I cannot help thinking it a variety of it. The only difference seems to be that the ocellate spots on the middle band of secondaries are so exceedingly undefined that, even with a lens, it is difficult to make them out.

23. *AMBULYX* ?? *HEUGLINI*.

Smerinthus heuglini, Felder, Reise der Nov., Lep. iv. tab. lxxviii. fig. 2 (Nov. 1874).

——?

Subfamily IV. *SMERINTHINÆ*.Genus 1. *METAMIMAS*, n. g.

Cæquosa, group 2, Walker, L. H. viii. p. 257 (1856).

1. *METAMIMAS AUSTRALASIÆ*.

Sphinx australasiæ, Donovan, Ins. New Holl. pl. 33. fig. 1 (1805).

Acherontia australasiæ, Boisduval, Voy. de l'Astrolabe, Ent. p. 181. no. 2 (1832–35).

Cæquosa australasiæ, Walker, Lep. Het. viii. p. 257. no. 2 (1856).

Australia (*Strange, Stevens, Wood*).

B.M.

2. METAMIMAS AMBOINICUS.

Smerinthus amboinicus, Felder, Sitz. Akad. Wiss. Wien, xliii. p. 29. no. 63; Reise der Nov., Lep. iv. tab. 78. fig. 1 (Nov. 1874).

Smerinthus amboiniensis (sic), Walker, Lep. Het., Suppl. i. p. 41 (1864).

Amboina.

Genus 2. MIMAS¹, Hübner.

Mimas, Hübner, Verz. bek. Schmett. p. 142. gen. 2 (1816).

1. MIMAS QUERCŪS.

Sphinx quercūs, Denis, Wien. Verzeichn. p. 4, tab. 1 a. figs. 1 a, 1 b, tab. 1 b. fig. 1.

Polyptychus quercūs, Hübner, Verz. bek. Schmett. p. 141. no. 1518 (1816).

Smerinthus quercūs, Godart, Hist. Nat. Léop. France, iii. p. 181, pl. 17. fig. 3.

Merinthus quercūs, Meigen, Syst. Besch. eur. Schmett. ii. p. 150. no. 4, pl. 78. fig. 5.

Europe (*Becker*).

B.M.

2. MIMAS TILIÆ.

Sphinx tiliæ, Linnaeus, Syst. Nat. i. 2, p. 797. no. 3 (1766).

Mimas tiliæ, Hübner, Verz. bek. Schmett. p. 142. no. 1522 (1816).

Smerinthus tiliæ, Godart, Hist. Nat. Léop. France, iii. p. 61, pl. 20. fig. 1.

Merinthus tiliæ, Meigen, Syst. Besch. eur. Schmett. ii. p. 149. no. 2, pl. 78. fig. 2.

Europe (*Becker*); Sierra Leone (*Morgan*).

B.M.

The antennæ of the male of this species are rather less strongly pectinated than in *M. quercūs*.

3. MIMAS DECOLOR.

Smerinthus decolor, Walker, Lep. Het. viii. p. 255. no. 19 (1856); Schaufuss, Nunquam Otiosus, i. p. 14 (1870-71).

Darjeeling (*Grote*).

Coll. F. Moore.

Mr. Walker says that this species possesses the "structure of *S. tiliæ*." The secondaries, however, differ slightly; and the costa of primaries is not quite so much arched. In the outline of the outer margin it agrees better with *M. quercūs*.

Genus 3. POLYPTYCHUS, Hübner (restricted).

Polyptychus, Hübner, Verz. bek. Schmett. p. 141. gen. 2 (1816).

1. POLYPTYCHUS DENTATUS. (Plate XCI. fig. 10.)

Sphinx dentata, Cramer, Pap. Exot. ii. p. 42, pl. 125. fig. G (1779).

¹ Easily distinguished from *Laotoë* by the form of the wings, the outer margin of secondaries deeply excavated below the apex, and the secondaries narrow and not denticulated. The type is *M. tiliæ*.

Polyptychus dentatus, Hübner, Verz. bek. Schmett. p. 141. no. 1514 (1816).

Smerinthus dentatus, Walker, Lep. Het. viii. p. 252. no. 14 (1856).

♀, Bengal and Darjeeling, coll. Moore; ♂ ♀, North India (*Hearsay, Stevens*). B.M.

The larva is bluish green at the sides, with oblique purple stripes, with a broad dorsal longitudinal golden-green band bordered by subtriangular purple spots, one above each oblique stripe.

2. POLYPTYCHUS TIMESIUS.

Sphinx timesius, Stoll, Suppl. Cramer, p. 172, pl. 40. fig. 1 (1791).

Smerinthus timesius, Walker, Lep. Het. viii. p. 252. no. 15 (1856).

“Tranquebar” (*Stoll*); ♂, Nepal (*Saunders*); ♀, Silhet (*Stainsforth*) B.M.; ♀, Masuri (Hutton), coll. F. Moore.

Nearly allied to the preceding species. I feel pretty sure about the identification; but Stoll's figure is not very good.

3. POLYPTYCHUS NUMOSÆ.

Smerinthus numosæ, Wallengren, Wien. ent. Monatschr. iv. p. 42. no. 40 (1860).

Smerinthus mimosæ, Wallengren, Kongl. Vetensk.-Akad. Handl. 1863, p. 20. no. 1.

Caffraria.

4. POLYPTYCHUS GRAYII.

Smerinthus grayii, Walker, Lep. Het. viii. p. 249. no. 11 (1856).

Port Natal (*Gueinzius*).

Type, B.M.

Apparently nearly allied to the preceding species.

5. POLYPTYCHUS ANDOSUS.

Panacra andosa, Walker, Lep. Het. viii. p. 159. no. 7 (1856).

Sierra Leone (*Morgan*).

Type, B.M.

6. POLYPTYCHUS? BASALIS.

Smerinthus basalis, Walker, Lep. Het. Suppl. p. 1158 (1866).

Zambesi river.

7. POLYPTYCHUS? SUBJECTUS.

Smerinthus subjectus, Walker, Characters of Heterocerous Lepidoptera from Congo, p. 4. no. 1 (1869).

Congo.

Genus 4. LOPHOSTETHUS, Butler.

Euclea, Boisduval, Sp. Gén. Léop. i. p. 14 (1875). Name preoccupied.

Form of wings as in *Triptogon*; metathorax and base of abdomen tufted with erect scales; collar wide; palpi small, with very short pointed terminal joint; tibiæ of front pair of legs terminating externally in a formidable hooked claw, of second pair in two claws, external and internal, of third pair in three unequal internal spines; basal half of wings below densely clothed with long hair-scales.

Type *E. demolinii*.

I know of no other moth armed with such powerful weapons as this genus. It is impossible to guess their use, unless they are intended for scratching.

LOPHOSTETHUS DEMOLINII.

Sphinx demolinii, Angas, Kaffirs Illustrated, pl. xxx. fig. 11 (1849).

Smerinthus dumolinii (sic), Walker, Lep. Het. viii. p. 250. no. 12 (1856); Felder, Reise der Nov., Lep. iv. tab. 82. fig. 2 (Nov. 1874).

♂ ♀, Port Natal (*Gueinzins*).

Type, B.M.

Mr. Walker quotes Guérin's 'Iconographie' for this species, but gives no reference to page or plate. I have referred to the book, but cannot find it; and Angas states his belief that it is a new species, which renders it most probable that he was the first to publish it.

Genus 5. SPHINGONÆPIOPSIS, Wallengren.

Sphingonæpiopsis, Wallengren, Öfvers. Kongl. Vetensk.-Akad. Förhandl. 1858, p. 138.

SPHINGONÆPIOPSIS GRACILIPES.

Sphingonæpiopsis gracilipes, Wallengren, Wien. ent. Mon. iv. p. 42. no. 39 (1860); Kongl. Svenska Vetensk.-Akad. Handl. v. p. 19. no. 1 (1866).

Interior of East Caffraria (*Wahlberg*).

I have not seen any examples of this curious little Smerinthine Sphingid.

Genus 6. LANGIA¹, Moore.

Langia, Moore, P. Z. S. 1872, p. 567.

1. LANGIA ZENZEROIDES.

Langia zenzeroides, Moore, P. Z. S. 1872, p. 567.

¹ This genus is nearly allied to *Triptogon*

2. *LANGIA KHASIANA*.

Langia khasiana, Moore, P. Z. S. 1872, p. 568.

Khasia hills (*Godwin-Austen*).

Type, coll. F. Moore.

This is a magnificent species. Unfortunately the type is much ruined by mites.

Genus 7. *TRIPTOGON*, Bremer.

Triptogon, Bremer, Bull. de l'Acad. Imp. St. Pétersb. iii. (1861) ; Butler, P. Z. S. 1875, p. 253.

1. *TRIPTOGON CRISTATA*.

Triptogon cristata, Butler, P. Z. S. 1875, p. 253. no. 39.

Vicinity of Darjeeling.

Type, coll. W. B. Farr.

2. *TRIPTOGON GIGAS*.

Triptogon gigas, Butler, P. Z. S. 1875, p. 253. no. 38.

Silhet (*Stainsforth*).

Type, B.M.

3. *TRIPTOGON ALBICANS*. (Plate XCIII. fig. 6.)

Triptogon albicans, Butler, P. Z. S. 1875, p. 254. no. 40.

Massuri (*Hutton*).

Type, coll. F. Moore.

4. *TRIPTOGON SPERCHIUS*.

Smerinthus sperchius, Méuëtriés, Enum. Corp. Auim. Mus. Imp. Acad. Sci. Petrop. ii. p. 137. no. 1565, pl. xiii. fig. 5 (1857).

Smerinthus dryas, Boisduval (nec *dyras* [sic], Walker), in De l'Orza's Lép. Jap. p. 37 (1869).

Japan (*Gaschkevitch*).

5. *TRIPTOGON DISSIMILIS*.

Triptogon dissimilis, Bremer, Bull. de l'Acad. Imp. St. Pétersb. iii. (1861).

Smerinthus dissimilis, Bremer, Lep. Ost-Sibir. p. 35, tab. iii. fig. 12 (1865).

Ussuri.

6. *TRIPTOGON DYRAS*.

Smerinthus dryas (part.), Walker, Lep. Het. viii. p. 250. no. 13 (1856).

♂, Canara (*Ward*), coll. F. Moore ; ♀, Ceylon (*Wenham*).

Type, B.M.

Mr. Walker's description of this species is evidently taken from the two insects (male and female) from Ceylon—the colour characters in part from the male (*T. ceylanica*, mihi), the size from the female. The male in Mr. Moore's collection is very similar to our female, excepting that it is smaller.

M. Boisduval, in a note on his *S. dryas*, states that this is the correct spelling of the name (*S. dryas* being a misprint); all I can say is that one of our examples of *T. silhetensis* has attached to it a label bearing the name "*Sm. dryas*" (sic), very legibly inscribed in Dr. Boisduval's handwriting.

All the forms of the *T. dryas* group are at once distinguished from the *Smerinthus sperchius* of Ménétrics, by the shortness of their wings, the much less prominently undulated outer margin of primaries, and the entirely different disposition of the transverse lines.

7. TRIPTOGON SINENSIS.

Triptogon sinensis, Butler, P. Z. S. 1875, p. 254. no. 41.

Hong Kong (*Harrington*).

Type, B.M.

8. TRIPTOGON JAVANICA.

Triptogon javanica, Butler, P. Z. S. 1875, p. 254. no. 42.

Java (*Horsfield*).

♂ ♀, B.M.; ♀, coll. F. Moore.

9. TRIPTOGON CEYLANICA.

Triptogon ceylanica, Butler, P. Z. S. 1875, p. 255. no. 43.

Smerinthus dryas ♂, Walker, Lep. Het. viii. p. 250. no. 13 (1856).

Ceylon (*Templeton*).

Type, B.M.

10. TRIPTOGON SILHETENSIS.

Triptogon silhetensis, Butler, P. Z. S. 1875, p. 255. no. 44.

♂ ♀, Silhet, coll. F. Moore; ♀ (*Stainsforth*).

B.M.

11. TRIPTOGON ORIENS. (Plate XCIII. fig. 3.)

Triptogon oriens, Butler, P. Z. S. 1875, p. 255. no. 45.

N.E. India.

Type, coll. F. Moore.

12. TRIPTOGON MASSURENSIS. (Plate XCIII. fig. 5.)

Triptogon massurensis, Butler, P. Z. S. 1875, p. 256. no. 46.

Massuri (*Hutton*).

Type, coll. F. Moore.

13. TRIPTOGON FUSCESCENS. (Plate XCIII. fig. 2.)

Triptogon fuscescens, Butler, P. Z. S. 1875, p. 256. no. 47.

Darjeeling.

Type, coll. F. Moore.

This and the six preceding forms are local representatives of *T. dryas*.

14. TRIPTOGON DECORATA.

Smerinthus decoratus, Moore, P. Z. S. 1872, p. 568.

Sikkim (*Lang*).

15. TRIPTOGON SPECTABILIS. (Plate XCIII. fig. 1.)

Triptogon spectabilis, Butler, P. Z. S. 1875, p. 256. no. 48.

Darjeeling.

Type, coll. F. Moore.

16. TRIPTOGON ? POPULETI.

Smerinthus populeti, Bienert, Lep. Ergebn. p. 33 (1870).

Persia.

17. TRIPTOGON ? PUSILLUS.

Smerinthus pusillus, Felder, Reise der Nov., Lep. iv. tab. 82. fig. 1 (Nov. 1874).

—— ?

I am not quite certain that this species belongs to the genus in which I have placed it; but it is more like it than any thing else.

18. TRIPTOGON INDICA.

Smerinthus indicus, Walker, Lep. Het. viii. p. 254. no. 17 (1856).

North India (*Stevens*).

Type, B.M.

This little species differs from the normal type of the genus in having the primaries more rounded at apex. The specimen in our collection may, however, be stunted.

19. TRIPTOGON COMPLACENS.

♂, *Smerinthus complacens*, Walker, Lep. Het. Suppl. i. p. 40 (1864).

♀, *Smerinthus dyras*, var. β, Walker, Lep. Het. viii. p. 251 (1856).

♂ ♀, Amoy (*Stevens*); ♀, Shanghai (*Fortune*); Japan (*Whitely*).

Type, B.M.

A well-marked and beautiful species.

20. TRIPTOGON ROSEIPENNIS. (Plate XCI. fig. 6.)

Triptogon roseipennis, Butler, P. Z. S. 1875, p. 257. no. 49.

Hakodadi (*Whitely*).

Type, B.M.

Allied to *T. gaschkevitschii*.

Mr. Lewis bred this species from larvæ found on the plum and cherry.

21. TRIPTOGON GASCHKEVITSCHII.

Smerinthus gaschkevitschii, Bremer, Beitr. Schmett. Faun. nördl. China's, p. 13. no. 58; Ménétriés,

Enum. Corp. Anim. Mus. Imp. Acad. Sci. Petrop. ii. p. 94. no. 1563, pl. xiii. fig. 4 (1857).

Pekin; Mongolia.

B.M.

22. TRIPTOGON MAACKII.

Smerinthus maackii, Bremer, Bull. de l'Acad. Sci. St. Pétersb. iii. (1861); Lep. Ost-Sibiriens, p. 34. no. 153, tab. iii. fig. 11 (1864).

Ussuri.

23. TRIPTOGON MODESTA.

Smerinthus modestus, Harris, Sill. Journ. vol. xxxvi. p. 292 (1839); ♂, Strecker, Lep. Rhop. & Het. part 7, p. 60, pl. vii. fig. 11 (1873).

Laothoë modesta, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 24 (1873).

Smerinthus princeps, Walker, Lep. Het. viii. p. 255. no. 21 (1856).

Canada, Lake Superior, New England, &c. (*Strecker*).

♀, B.M.

This is unquestionably the proper place for this species.

Genus 8. LAOTHOË, Fabricius.

Laothoë, Illiger's Mag. vi. p. 287 (1808).

1. LAOTHOË POPULI.

Sphinx populi, Linnæus, Syst. Nat. i. 2, p. 797. no. 2 (1766).

Polyptychus populi, Hübner, Verz. bek. Schmett. p. 141. no. 1517 (1816).

Smerinthus populi, Godart, Hist. Nat. Lép. France, iii. p. 71, pl. 20. fig. 3.

Laothoë populi, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 24 (1873).

England [Brit. Coll.]; Europe (*Becker*).

B.M.

I find, after a careful comparison of the *Smerinthus modestus* of Harris with *L. populi* that they differ so much in structure from one another, that I cannot follow Mr. Grote in placing them in the same genus. The form of the wings, the direction of the discocellulars, and the length of the branches of the subcostal nervure, will at once distinguish them.

I have not thought it worth while to refer to the hybrid form between this genus and *Smerinthus*, although Mr. Strecker gives it, in his work, a distinct heading, as if it were a species.

2. LAOTHOË TREMULÆ.

Sphinx tremulæ, Treitschke, Schmett. Eur. x. 1, p. 140 (1834).

Smerinthus tremulæ, Duponchel, Hist. Nat. Lép. France, Suppl. ii. p. 29, pl. 2. fig. 2.

Moscow.

Genus 9. CRESSONIA, Grote and Robinson.

Cressonia, Grote and Robinson, Proc. Ent. Soc. Phil. v. p. 186 (1865).

1. CRESSONIA JUGLANDIS.

Sphinx juglandis, Smith and Abbot, Lep. Ins. Georg. vol. i. p. 57, pl. 29 (1797).

Amorpha dentata juglandis, Hübner, Samml. exot. Schmett. i. pl. 171. figs. 1-4 (1806-24).

Polyptychus juglandis, Hübner, Verz. bek. Schmett. p. 141. no. 1516 (1816).

Smerinthus juglandis, Harris, Sill. Journ. vol. xxxvi. p. 292 (1839); Strecker, Lep. Rhop. & Het. pt. 7, pl. vii. figs. 12, 13 (1873).

Cressonia juglandis, Grote and Robinson, Proc. Ent. Soc. Phil. vol. v. p. 161. no. 74 (1865).

Sphinx instabilis, Martyn, *Psyche*, pl. xx. fig. 49, and pl. 21. fig. 53 (1797).

♂ ♀ North America, ♂ West Canada (*Bush*); East Florida (*Doubleday*). B.M.

We have a pair of what seems to be a second species; it is of a greyer tint and half as large again, the transverse lines wider apart, and the primaries with central band not darkened on the inner margin. I propose to call it *C. robinsonii*, n. sp.

2. CRESSONIA ROBINSONII.

Cressonia robinsonii, Butler, *suprà*.

New York.

Type, B.M.

It is quite possible that the above may be a large form of *C. juglandis*; but it differs noticeably from our six examples of that species.

3. CRESSONIA PALLENS¹.

♀, *Smerinthus pallens*, Strecker, Lep. Rhop. & Het. pt. 7, p. 54, pl. vii. fig. 14 (1873).

Texas.

In Mr. Strecker's jocular strictures on the excellent subdivision of the *Smerinthina* proposed by Mr. Grote, he exhibits a weakness in admitting that *S. juglandis* and *S. pallens* might be placed in one genus, provided that uniformity of shape in the wings were taken as the basis thereof. I find that dissimilarity in the outline of the wings is almost always accompanied by modification of the discocellular nervelets, which would be sufficient in the eyes of any Lepidopterist to warrant generic separation.

Genus 10. PAONIAS, Hübner (restricted)².

Paonias, Hübner, Verz. bek. Schmett. p. 142 (1816).

1. PAONIAS EXCÆCATUS.

Sphinx excæcatus, Smith and Abbot, Lep. Ins. Georg. i. p. 49, pl. 25 (1797).

¹ Mr. Grote is confident that this is only a variety of *C. juglandis*. It looks quite distinct.

² At once distinguished from *Calasymbolus* and *Triptogon* by the form of the secondaries, which approach *Laiothoe* in outline.

Paonias excacatus, Hübner, Verz. bek. Schmett. p. 142. no. 1521 (1816).

Smerinthus excacatus, Walker, Lep. Het. viii. p. 246. no. 8 (1856); Strecker, Lep. Rhop. & Het. pt. 7, p. 54, pl. viii. figs. 1, 2 (1873).

Smerinthus excacata (sic), Harris, Sill. Journ. vol. xxxvi. p. 230 (1839).

Paonias pavonina, Hübner, Zuträge, figs. 835, 836 (1837).

Smerinthus pavoninus, Grote & Robinson, Proc. Ent. Soc. Phil. vol. v. p. 160. no. 70 (1865).

Paonias pavoninus, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 23 (1873).

New York (*Doubleday*); Canada (*Barnston*); Canada West (*Bush*).

B.M.

2. PAONIAS MYOPS.

Sphinx myops, Smith & Abbot, Lep. Ins. Georg. vol. i. p. 51, pl. 26 (1797).

Paonias myops, Hübner, Verz. bek. Schmett. p. 142. no. 1520 (1816).

Smerinthus myops, Harris, Sill. Journ. vol. xxxvi. p. 291 (1839); Strecker, Lep. Rhop. & Het. pt. 7, p. 55, pl. vii. fig. 9 (1873).

Sphinx ocellatus jamaicensis, Drury, Ill. Nat. Hist. vol. ii. p. 43, pl. 25. figs. 2, 3 (1773).

Smerinthus jamaicensis, Westwood, Drury, *l. c.* (1837).

Smerinthus rosacearum, Boisduval, Sp. Gén. Léop. pl. 15. fig. 4 (1836).

United States (*Doubleday*).

B.M.

I believe Drury's locality to be incorrect; his name is therefore not appropriate. Although the primaries of this species agree with *Calasymphobolus* in the absence of the undulation of outer margin, it agrees so closely in all other structural respects with *P. excacatus*, that I am satisfied to leave it in the same genus with it. The form of the secondaries in *Paonias* is markedly distinct from *Calasymphobolus*, the apical part of costa being abruptly convex, modifying the first branch of the subcostal nervure.

Genus 11. CALASYMBOLUS, Grote.

Calasymphobolus, Grote, Bull. Buff. Soc. Nat. Sci. p. 23 (1873).

Differs from *Smerinthus* in the form of the primaries, and from *Paonias* in the form of the secondaries.

1. CALASYMBOLUS ASTYLUS.

Sphinx astylus, Drury, Ill. Nat. Hist. ii. p. 45, pl. 26. fig. 2 (1773).

Smerinthus astylus, Westwood, Drury, *l. c.* (1837); ♂, Strecker, Lep. Rhop. & Het. pt. 7, p. 56. pl. 7. fig. 10 (1873).

Calasymphobolus astylus, Grote, Bull. Buff. Soc. Nat. Sci. vol. i. p. 23 (1873).

Smerinthus io, Boisduval, Guérin's *Icon. Règne Anim.* Ins. pl. 84. fig. 2 (1829-44).

"Atlantic District!" (*Grote and Robinson*).

Strecker's figure of this species has the two opposite primaries rather different in outline; but, judging from Drury's figure, I have little doubt as to its genus.

VOL. IX.—PART X. No. 11.—November, 1876.

4 K

2. CALASYMBOLUS GEMINATUS.

Smerinthus geminatus, Say, Am. Ent. vol. i. p. 25, pl. 12 (1824); Strecker, Lep. Rhop. & Het. pt. 7, p. 56, pl. vii. figs. 6, 7 (1873).

United States (*Doubleday*); W. Canada (*Bush*).

B.M.

3. CALASYMBOLUS CERISII.

Smerinthus cerisii, Kirby, Faun. Bor.-Am. vol. iv. p. 302, pl. iv. fig. 4 (1837); Strecker, Lep. Rhop. & Het. pt. 7, p. 59, pl. vii. fig. 3 (1873).

"Atlantic District!" (*Grote and Robinson*).

4. CALASYMBOLUS CÆCUS.

Smerinthus cæcus, Ménétriés, Enum. Corp. Anim. Mus. Imp. Acad. Sci. Petrop. ii. p. 135. no. 1560, pl. xiii. fig. 2 (1857).

Amur Land.

Nearly allied to *C. geminatus*.

5. CALASYMBOLUS KINDERMANNI.

Smerinthus kindermanni, Lederer, Verhandl. zool.-botan. Vereins, Wien, Band ii. pt. 2, p. 92 (1853).

Pontus.

Genus 12. SMERINTHIUS, Latreille.

Smerinthus, Hist. Nat. Ins. iii. p. 431 (1802).

1. SMERINTHUS OCELLATUS.

Sphinx ocellata, Linnæus, Syst. Nat. i. 2, p. 796. no. 1 (1766); Roesel, Ins. Belust. i. tab. 1 (1746).

Merinthus ocellatus, Meigen, Syst. Besch. eur. Schmett. ii. p. 148. no. 1, pl. 78. fig. 1.

Smerinthus ocellatus, Godart, Hist. Nat. Lép. France, i. p. 68, pl. 20. fig. 2.

Sphinx salicis, Hübner, Eur. Schmett. Sph. i. pl. 15. fig. 73.

Paonias salicis, Hübner, Verz. bek. Schmett. p. 142. no. 1519 (1816).

England [Brit. coll.]; Europe (*Becker*).

B.M.

2. SMERINTHUS OPHTHALMICUS.

Smerinthus ophthalmicus, Boisduval, Ann. Ent. Soc. Belge, xii. p. 67. no. 72 (1868); Strecker, Lep. Rhop. & Het. pt. 7, p. 58, pl. vii. figs. 4, 5 (1873).

California and Mexico.

B.M.

According to M. Boisduval, this species should be placed between *S. ocellatus* and *S. geminatus*. We have both sexes of an insect which agrees with the descriptions and figures of this species; but, unfortunately, our specimens have no locality upon them; they are, however, set in the same way and have the same green label as many of our

Californian Lepidoptera. A female example of a species from Vancouver's Island is also in the collection; although rather a larger insect, it approaches very close to *S. ophthalmicus* ♀, as figured by Strecker, but has the primaries of a much browner tint, as in *S. ocellatus*, and less excavated below external angle; the central band forms a large oblong patch on inner margin; and the whitish submarginal streak is less distinct. The secondaries are bright rose-colour, excepting a narrow buff outer border and a diffused whitish patch at anal angle; the ocellus is larger. I propose to call it *S. vancouveriensis*.

3. *SMERINTHUS PLANUS*. (Plate XCII. fig. 11.)

Smerinthus planus, Walker, Lep. Het. viii. p. 254. no. 18 (1856).

♂, North China (*Cuming*); ♀, Shanghai.

Type, B.M.

The larva is pale green, with white or yellow lateral stripes. It feeds on the 'Yanagi,' or weeping willow. (Geo. Lewis, in litt.)

4. *SMERINTHUS ARGUS*.

Smerinthus argus, Ménétriés, Enum. Corp. Anim. Mus. Imp. Acad. Sci. Petrop. ii. p. 136. no. 1561, tab. xiii. fig. 3 (1857).

Amur Land.

Probably a local form of the preceding, from which it chiefly differs in being much paler.

5. *SMERINTHUS TATARINOVII*. (Plate XC. fig. 16.)

Smerinthus tatarinovii, Motschulsky, Etudes Entom. p. 62 (1852); Ménétriés, Enum. Corp. Anim. Mus. Imp. Acad. Sci. Petrop. ii. tab. xiii. fig. 1 (1857).

Japan (*Fortune*).

B.M.

The larva of *S. tatarinovii* is figured among the unpublished drawings prepared for Mr. Lewis in Japan. It is pale sea-green, tuberculated with white, with seven lateral oblique crimson-edged white stripes; the horn red-brown or sordid rose-colour; prolegs yellowish.

Genus 13. *PSEUDOSMERINTHUS*, n. gen.

At once distinguished from *Basiana* by its short and strongly falcated primaries, with short outer margin, and with the inner margin strongly excavated below external angle; prothorax very short; head small; palpi very short, not visible from above; antennæ short, slender; secondaries subpyriform; upper discocellular longer than lower, oblique, strongly concave.

1. PSEUDOSMERINTHUS SUBMARGINALIS.

♀, *Basiana submarginalis*, Walker, Lep. Het. Suppl. i. p. 37 (1864).

Sierra Leone (*Foxcroft*).

Type, B.M.

2. PSEUDOSMERINTHUS SUFFUSUS.

Basiana suffusa, Walker, Characters of Heterocerous Lepidoptera from Congo, p. 5. no. 3 (1869).

Congo.

Genus 14. DAPHNUSA, Walker.

Daphnusa, Walker, Lep. Het. viii. p. 237. gen. 36 (1856).

1. DAPHNUSA OCELLARIS.

♂, *Daphnusa ocellaris*, Walker, Lep. Het. viii. p. 238. no. 1 (1856).

Borneo (*Horsburgh*); Sarawak (*Wallace*).

Type, B.M.

2. DAPHNUSA ORBIFERA.

♀, *Daphnusa orbifera*, Walker, Journ. Liun. Soc. vi. p. 85. n. 16 (1862).

Sarawak (*Wallace*).

Type, B.M.

I believe this to be the female of the preceding species.

3. DAPHNUSA COLLIGATA.

Daphnusa colligata, Walker, Lep. Het. viii. p. 238. no. 2 (1856).

North China (*Stevens*); Hong Kong (*Bowring*).

Type, B.M.

Genus 15. LEUCOPHLEBIA, Westwood.

Leucophlebia, Westwood, Cab. Orient. Ent. p. 46 (1848).

1. LEUCOPHLEBIA LINEATA.

Leucophlebia lineata, Westwood, Cab. Orient. Ent. pl. 22. fig. 2 (1848).

♂, Nepal (*Hardwicke*); ♀, Java (*Horsfield*).

B.M.

The description of the body is scarcely defined enough, as there are nearly allied species from other parts of India which chiefly differ from *L. lineata* in the colouring of the head and thorax. The head and antennæ above are cream-coloured; the thorax pinkish cream-coloured, with a broad increasing central ochreous-brown patch; the abdomen above dull ochreous, pink at the sides; head, antennæ, and palpi below ferruginous; pectus dull pale ochreous at the sides, rosy in the centre; legs white

above, brownish rose-colour below; venter dull rose-colour. The larva is figured by Moore, Cat. Lep. E.I. C. i. pl. viii. fig. 5 (1857).

2. *LEUCOPHLEBIA ROSACEA*.

♂, *Leucophlebia rosacea*, Butler, P. Z. S. 1875, p. 15, pl. 2. fig. 4.

Coimbatore (*Walhouse*).

Type, B.M.

Altogether darker than the preceding; the vertex of the head dark brown. Mr. Moore has this species from Kussowlee, N.W. Himalayas.

3. *LEUCOPHLEBIA BICOLOR*.

Leucophlebia bicolor, Butler, P. Z. S. 1875, p. 16, pl. 2. fig. 5.

Almorah (*Boys*); North India? (*Argent*).

Type, B.M.

Allied to *L. lineata* and *L. emittens*. Mr. Moore has both sexes from Bombay.

4. *LEUCOPHLEBIA EMITTENS*.

Leucophlebia emittens, Walker, Lep. Het. Suppl. v. p. 1858 (1866).

India.

Type, B.M.

Genus 16. *BASIANA*, Walker.

Basiana, Walker, Lep. Het. viii. p. 236. gen. 35 (1856).

1. *BASIANA DEUCALION*.

♀, *Basiana deucalion*, Walker, Lep. Het. viii. p. 236. no. 1 (1856).

North India (*Mauger*).

Type, B.M.

2. *BASIANA BILINEATA*.

♂, *Basiana bilineata*, Walker, Lep. Het. Suppl. v. p. 1857 (1866).

Darjeeling (*Russell*).

Type, B.M.

I formerly believed this to be the male of the preceding species; but Mr. Moore has the female of *B. bilineata* in his collection from Shanghai. This doubtless gives the species a tremendous range; but I think there is no doubt of the specific identity of the two sexes.

3. *BASIANA EXUSTA*. (Plate XCIII. fig. 4)

Basiana exusta, Butler, P. Z. S. 1875, p. 252. no. 37.

Kunawur (*Lang*).

Type, coll. F. Moore.

The larva feeds on poplar. I have seen a second example in Mr. Sharpe's collection.

4. BASIANA PHALARIS.

♀, *Sphinx phalaris*, Cramer, Pap. Exot. ii. p. 83, pl. 149. fig. A (1779).

Clanis phalaris, Hübner, Verz. bek. Schmett. p. 138. no. 1481 (1816).

Cæquosa? phalaris, Walker, Lep. Het. viii. p. 258. no. 3 (1856).

♂, *Sphinx pagana*, Fabricius, Sp. Ins. ii. p. 146. no. 29 (1781).

♀, *Basiana cervina* (part.), Walker, Lep. Het. viii. p. 237. no. 2 (1856).

♂ ♀, North India (*Stevens*).

B.M.

Although Cramer's figure appears far too deeply coloured for this species, I have very little doubt of the correctness of my determination. The type of *S. pagana* of Fabricius is in the Banksian Collection in the British Museum. The larva is clumsy, green, with seven oblique lateral white stripes and a very short, aborted anal horn.

5. BASIANA CERVINA.

Basiana cervina, Walker, Lep. Het. viii. p. 237. no. 2 (1856).

♂ ♀, North India (*Stevens*); Madras.

Type, B.M.

6. BASIANA SEMIFERRENS.

Basiana semiferrans, Walker, Lep. Het. Suppl. i. p. 38 (1864).

Ternate (*Wallace*).

7. BASIANA PUDORINA.

Smerinthus pudorinus, Walker, Lep. Het. viii. p. 253. no. 16 (1856).

♂ ♀, North India (*Stevens*).

Type, B.M.

8. BASIANA POSTICA.

Basiana postica, Walker, Lep. Het. viii. p. 237. no. 3 (1856).

Port Natal (*Gueinzus &c.*).

Type, B.M.

9. BASIANA ABYSSINICA.

Smerinthus abyssinica, Lucas, Ann. Soc. Ent. France, 3^e sér. v. p. 606, pl. 13. fig. 2 (1857).

Zonilia abyssinica, Walker, Lep. Het. Suppl. i. p. 34 (1864).

Abyssinia.

Closely allied to the preceding species.

Genus 17. CÆQUOSA, Walker.

Cæquosa, Walker, Lep. Het. viii. p. 256. gen. 38 (1856).

CÆQUOSA TRIANGULARIS.

Sphinx triangularis, Donovan, Ins. New Holl. pl. 33. fig. 2 (1805).

Acherontia triangularis, Boisduval, Voy. de l'Astrolabe, Ent. p. 181. no. 1 (1832-35).

Sphinx castaneus, Perry, Arcana or Mus. Nat. Hist. i. (1811).

Cæquosa triangularis, Walker, Lep. Het. viii. p. 257. no. 1 (1856).

Moreton Bay (*Gibbons*); Australia (*Hunter*).

B.M.

Subfamily V. ACHERONTIINÆ.

Genus ACHERONTIA, Hübner.

Acherontia, Hübner, Verz. bek. Schmett. p. 139 (1816).

1. ACHERONTIA STYX.

Acherontia styx, Westwood, Cab. Orient. Ent. p. 88, pl. 42. fig. 3 (1847).

Acherontia atropos (part.), Walker, Lep. Het. viii. p. 234 (1856).

North India (*James*); Turkey in Asia (*Loftus*).

B.M.

The larva is very pale green, or bright golden yellow, irrorated with black dots, with lilac-bordered oblique white streaks; it has also a dark brown form. It feeds on *Paulownia imperialis*.

2. ACHERONTIA MEDUSA, n. sp. (Plate XCII. fig. 10.)

Acherontia medusa, De Cerisy, MS.

Acherontia styx (part.), Moore, Cat. Lep. E.I. Comp. i. p. 267 (1857).

Altogether darker than the preceding, and running to a larger size; primaries above without or with very indistinct longitudinal reddish streaks; subapical paler area less oblique, the intersecting transverse lines less strongly dentated; secondaries with the black bands, as a rule, closer together, better-defined, the inner one generally extending to third subcostal branch; body above darker, the scull-marking on thorax much darker, and consequently rather less conspicuous; head blacker; abdomen with the dorsal blue bar darker, the transverse bands blacker; primaries below with the outer border much more dusky; secondaries with the outer band more dusky. Expanse of wings 3 inches 5 lines to 4 inches 10 lines (*A. styx* measures 3 inches 2 lines to 4 inches 5 lines).

Java (*Horsfield*); Hong Kong (*Bowring*); Shanghai, China, East India, Philippines (*Bowring*). B.M.

I have received examples of this species from Mr. Lewis. The smaller form of it was bred by him in Japan; and as he has had the transformations carefully drawn by a native artist, I am now enabled to figure them, proving the entire distinctness of this species from *A. atropos*. He believes that the larger examples may be referable to a distinct species, the small Japanese examples being constant in size and in the absence of the ventral black spots upon the abdomen. The larva feeds on *Sesamum orientale*.

3. ACHERONTIA ATROPOS.

Sphinx atropos, Linnæus, Mus. Lud. Ulr. p. 348. no. 8 (1764).

Acherontia atropos, Hübner, Verz. bek. Schmett. p. 139. no. 1494 (1816).

England [Brit. coll.]; Europe (*Becker*); Sierra Leone (*Morgan*); Mauritius (*Beke*); South Africa (*Smith*). B.M.

This species may be at once distinguished from the two preceding (in its perfect state) by the deeper orange tint of the secondaries and abdomen, and by the transverse blackish belts on the underside of the abdomen. The larvæ differ considerably.

4. ACHERONTIA MORTA. (Plate XCII. fig. 9.)

Acherontia morta, Hübner, Verz. bek. Schmett. p. 140. no. 1496 (1816).

Sphinx atropos, var., Cramer, Pap. Exot. iii. p. 74, pl. 237. fig. A (1782).

Sphinx atropos, Gray, Cuvier's Animal Kingdom, pl. 137. fig. 4 (1832).

Acherontia satanas, Boisduval, Hist. Nat. des Lép. pl. 16. fig. 1 (1836).

Acherontia lethe, Westwood, Cab. Orient. Ent. p. 87, pl. 42. fig. 2 (1848).

? *Sphinx lachesis*, Fabricius, Ent. Syst. Suppl. p. 434. nos. 26, 27 (1798).

Java (*Horsfield*); Hong Kong (*Bowring*); Ceylon (*Templeton*); Silhet (*Sowerby*); Assam (*Warwick*). B.M.

Mr. Walker adopted the most recent name for this species: Mr. Moore, however, recorded it as *A. satanas*, with a query as to Hübner's species being the same; but as Cramer's figure is clearly a representation of a Javese example of this species, we cannot avoid adopting Hübner's name for it.

Subfamily VI. SPHINGINÆ.

Genus 1. TATOGLOSSUM, n. gen.

Allied to *Anceryx* (restricted). Body more robust; thorax much shorter; prothorax not extending so far in advance of the wings; mesothorax not crested. Head shorter; palpi narrower, closely appressed to the front of head; proboscis long; anus of male

not tufted; primaries less pointed at apex; discocellulars more transverse; secondaries broader and more rounded at apex.

TATOGLOSSUM CARICÆ.

Sphinx caricæ, Linnæus, Mus. Lud. Ulr. p. 350 (1764).

Erinnyis caricæ, Hübner, Verz. bek. Schmett. p. 139. no. 1493 (1816).

Sphinx cacus, Cramer, Pap. Exot. iv. p. 73, pl. 46. fig. E (1782).

♂ ♀, Colombia? (*Parzudaki*).

B.M.

Genus 2. AMPHONYX, Poey.

Amphonyx, Poey, Cent. Lep. Cuba (1832).

1. AMPHONYX DUPONCHEL.

Amphonyx duponchel, Poey, Cent. Lep. Cuba (1832).

Macrosilia duponchel, Herrich-Schäffer, Corr.-Blatt, 1865, p. 59.

Macrosilia antæus (part.), Walker, Lep. Het. viii. p. 200. no. 1 (1856).

♂ ♀, Haiti (*Tweedie*); ♀, Jamaica (*Gosse*).

B.M.

2. AMPHONYX RIVULARIS. (Plate XCIV. fig. 6.)

Amphonyx rivularis, Butler, P. Z. S. 1875, p. 11. no. 22.

♀ ♂, — ?; ♂, Ega (*Bates*).

Type, B.M.

3. AMPHONYX ANTÆUS.

♂, *Sphinx antæus*, Drury, Ill. Nat. Hist. ii. p. 43, pl. 25. fig. 2 (1773).

Amphonyx antæus, Poey, Cent. Lep. Cuba, Dec. 1 (1832).

Macrosila antæus (part.), Walker, Lep. Het. viii. p. 200. no. 4 (1856).

Macrosila anthæus (sic), Herrich-Schäffer, Corr.-Blatt, 1865, p. 59.

Sphinx iatrophæ, Fabricius, Syst. Ent. p. 538. no. 8 (1775).

Cocytius iatrophæ, Hübner, Verz. bek. Schmett. p. 140. no. 1497 (1816).

Ancistrognathus iatrophæ, Wallengren, Öfvers. Kongl. Vetensk.-Akad. Förhandl. 1858, p. 138.

♀, Haiti (*Tweedie*).

B.M.

4. AMPHONYX MEDOR.

♀, *Sphinx medor*, Cramer, Pap. Exot. iv. p. 215, pl. 394. fig. A (1782).

♂ ♀, Mexico (*Hartweg*).

B.M.

This species is altogether darker in colouring than the preceding; the body is of a dark gunpowder-grey tint, on which the orange spots stand out very vividly.

5. AMPHONYX HYDASPUS.

♀, *Sphinx hydaspus*, Cramer, Pap. Exot. ii. p. 31, pl. 118. fig. A (1779).

Sphinx hydaspes, Grote, Proc. Ent. Soc. Phil. v. p. 66 (1865).

Surinam.

VOL. IX.—PART X. No. 12.—November, 1876.

4 L

This species is certainly distinct; Cramer's figures of *A. medor* and *A. hydaspus* are evidently both taken from female examples; the white spots are most distinctive.

6. AMPHONYX CLUENTIUS.

Sphinx cluentius, Cramer, Pap. Exot. i. p. 124, pl. 78. fig. B (1779).

Phlegethontius cluentius, Hübner, Verz. bek. Schmett. p. 140. no. 1500 (1816).

Amphonyx cluentius, Poey, Cent. Lep. Cuba, Dec. 1 (1832).

Macrosila cluentius, Walker, Lep. Het. viii. p. 200. no. 3 (1856).

Brazil (*Saunders*); Rio Janeiro (*Stevens*); Haiti (*Tweedie*).

B.M.

Genus 3. ANCERYX, Walker (restricted)¹.

Anceryx, Walker, Lep. Het. viii. p. 222. gen. 29 (1856).

1. ANCERYX ALOPE.

♀, *Sphinx alope*, Drury, Ill. Nat. Hist. i. p. 58, pl. 27. fig. 1 (1770).

Jamaica.

Comparing this species with the various allied but distinct forms in the genus *Dilophonota*, several of them sent by the same collector from Oaxaca, Mexico, I cannot believe that Drury's figure can be so gross as to be a representation of the *Sphinx alope* of Cramer; not only is the banding and coloration of the primaries utterly different, but the body is both described and represented as "clay-coloured;" I therefore adopt Swainson's name of *Sphinx fasciata* for Cramer's insect.

2. ANCERYX FASCIATA.

♂, *Sphinx fasciata*, Swainson, Zool. Ill. 2nd ser. vol. iii. pl. 150 (1823).

♀, *Sphinx alope*, Cramer (nee Drury), Pap. Exot. iv. p. 23, pl. 301. fig. G (1782).

Erinnyis alope, Hübner, Verz. bek. Schmett. p. 139. no. 1492 (1816).

Dilophonota alope, Burmeister, Abhandl. naturf. Gesellsch. Halle, p. 70. no. 2 (1855).

Anceryx alope, Walker, Lep. Het. viii. p. 225. no. 6 (1856).

♂ ♀, Haiti (*Tweedie*); Jamaica (*Gosse*); South America (*Milne*).

B.M.

¹ Allied to *Amphonyx*; thorax with a broad and very prominent dorsal tuft, dilated in front and excavated above; proboscis long, but shorter than in *Amphonyx*; head and thorax projecting a long way in front of primaries; secondaries narrow, especially towards apex.

Genus 4. ISOGNATHUS, Felder.

Isognathus, Felder, Wien. ent. Mon. vi. p. 187 (1862).

Section ERINNYIS, Hübner (restricted)¹.

1. ISOGNATHUS RIMOSUS.

♂, *Erinnyis rimosa*, Grote, Proc. Ent. Soc. Phil. v. pp. 73 and 167, pl. 2. fig. 1 (1865).

Anceryx scyron (part.), Walker, Lep. Het. viii. p. 225. no. 5 (1856).

Sphinx mnecus, Poey, in Grote's 'Notes on Cuban Sphingidæ,' p. 75 (1865).

Haiti (*Tweedie*).

B.M.

2. ISOGNATHUS LAURA, n. sp.

Nearly allied to the preceding, but rather smaller; the primaries more distinctly marked, the black discal dash shorter; the secondaries of a rather paler yellow colour, with the marginal border one third narrower; body darker; wings below darker, transverse bar more distinct. Expanse of wings 2 inches 4 lines.

Venezuela (*Dyson*).

Type, B.M.

3. ISOGNATHUS AMAZONICUS, n. sp. (Plate XCIV. fig. 8.)

♀, *Anceryx scyron*, Walker (nee Cramer), Lep. Het. viii. p. 225. no. 5 (1856).

Villa Nova (*Bates*).

Type, B.M.

This is the species described by Walker; it is the largest in the genus. The primaries have a peculiar greyish tint, and the markings are strongly defined; the outer border of secondaries takes up a little more than one third of the wing; the bands on the abdomen are well defined, and scarcely interrupted in the centre.

4. ISOGNATHUS CONGRATULANS.

Erinnyis congratulans, Grote, Ann. Lyc. Nat. Hist. New York, viii. p. 200 (1867).

Cuba (*Gundlach and Poey*).

5. ISOGNATHUS FUMOSA.

Isognathus fumosa, Butler, P. Z. S. 1875, p. 258. no. 50.

Brazil (*Stevens*).

Type, B.M.

¹ Mr. Grote remarks, Lyc. Nat. Hist. New York, that *E. rimosa* and *E. congratulans* are a group "characterized by the elevated square thoracic parts, which are but slightly advanced before the insertion of the primaries." They remind one of the genus *Diludia* in pattern.

6. ISOGNATHUS LEACHII.

Sphinx leachii, Swainson, Zool. Ill. 2nd ser. vol. iii. pl. 150 (1823).

Isognathus leachii, Felder, Wien. ent. Mon. vi. p. 187 (1862).

——— ?

The primaries and body of this species are like my *I. fumosa*, but the secondaries like *I. laura*.

7. ISOGNATHUS METASCYRON. (Plate XCIV. fig. 7.)

Isognathus metascyron, Butler, P. Z. S. 1875, p. 258, no. 51.

Villa Nova (*Bates*).

Type, B.M.

8. ISOGNATHUS SCYRON.

Sphinx scyron, Cramer, Pap. Exot. iv. p. 23, pl. 301. fig. E (1782).

Erinnyis scyron, Hübner, Verz. bek. Schmett. p. 139. no. 1491 (1816).

Surinam.

Not in the collection of the British Museum; the species most nearly allied to it was placed with *Anceryx alope*, and four other distinct species represent *Anceryx scyron*, in Mr. Walker's catalogue.

9. ISOGNATHUS SWAINSONII.

Isognathus swainsonii, Felder, Wien. ent. Mon. vi. p. 187 (1862).

Rio Negro.

Very nearly allied to *I. scyron*.

Genus 5. CAUTETHIA, Grote.

Cautethia, Grote, Lyc. Nat. Hist. New York, viii. p. 202 (1867).

1. CAUTETHIA NOCTUIFORMIS.

Enosanda noctuiformis, Walker, Lep. Hct. viii. p. 232. no. 1 (1856).

Cautethia noctuiformis, Grote, Proc. Ent. Soc. Phil. v. p. 168. no. 116 (1865); Herrich-Schäffer, Samml. auss. Schmett. ii. fig. 552 (1869).

Haiti (*Tweedie*).

Type, B.M.

I think that *Enosandra* of Newman is too close to *Enosanda* for both names to be retained.

2. CAUTETHIA CHINENSIS.

Enosanda chineasis, Schaufuss, Nunquam Otiosus, i. p. 23 (1870).

"East India."

"Distinguished from *Æ. noctuiformis* by its narrower body, altogether more grey-brown

colour without white dusting, and the denser yellow on the secondaries." If this is all, it is evidently a variety of that species with a wrong locality; and, judging by the state of the localities in the Rhopalocera of Kaden's collection, I should say this was highly probable.

Genus 6. DILOPHONOTA, Burmeister.

Dilophonota, Burmeister, Abhandl. naturf. Gesellsch. Halle, p. 69. gen. 6 (1855).

1. DILOPHONOTA ELLO.

Sphinx ello, Linnæus, Mus. Lud. Ulr. p. 351 (1764); Drury, Ill. Nat. Hist. i. p. 58, pl. 27. fig. 3 (1770).

Erinnyis ello, Hübner, Verz. bek. Schmett. p. 139. no. 1489 (1816).

Dilophonota ello, Burmeister, Abhandl. naturf. Gesellsch. Halle, p. 70. no. 1 (1855).

Anceryx ello, Walker, Lep. Het. viii. p. 224. no. 4 (1856).

♂ ♀, Mexico (*Hartweg*); ♀, west coast of South America (*Kellett & Wood*); New Granada, ♂ ♀, Haiti (*Tweedie*); St. Thomas (*Hornbeck*). B.M.

2. DILOPHONOTA PIPERIS.

Anceryx piperis, Schaufuss, Nunquam Otiosus, i. p. 17 (1870).

Venezuela (*Moritz*).

Apparently nearly allied to *A. ello*, but with the blackish border of secondaries much broader.

3. DILOPHONOTA MERIANÆ.

Erinnyis merianæ, Grote, Proc. Ent. Soc. Phil. v. pp. 75 and 168, pl. 2. fig. 2 (1865).

"Tropical Insular and Continental Districts!" (*Grote*).

4. DILOPHONOTA OMPHALEÆ.

♂, *Anceryx omphaleæ*, Boisduval, Léop. Guat. p. 72 (1870).

♀, *Erinnyis ænotrus*, Grote (nee Cramer), Proc. Ent. Soc. Phil. v. pl. ii. fig. 3 (1865).

♂ ♀, Mexico (*Hartweg*); ♀, Haiti (*Tweedie*). B.M.

I cannot agree with Mr. Grote in thinking Cramer's figure to be intended for this species; the distinctive apical and inner marginal pale areas of primaries are not marked in that figure, whilst the transverse wavy lines are far more like the *E. melancholica* of Grote.

5. DILOPHONOTA ÆNOTRUS.

Sphinx ænotrus, Cramer, Pap. Exot. vol. iv. p. 22, pl. 201. fig. C (1782).

Erinnyis ænotrus, Hübner, Verz. bek. Schmett. p. 139. no. 1490 (1816).

Dilophonota ænotrus, Burmeister, Abhandl. naturf. Gesellsch. Halle, p. 71. no. 3 (1855).

Anceryx ænotrus (part.), Walker, Lep. Het. viii. p. 227. no. 9 (1856).

♂, *Erinnyis melancholica*, Grote, Proc. Ent. Soc. Phil. vol. v. pp. 77 and 168, pl. 2. fig. 4 (1865).

♀, *Erinnyis cinerosa*, Grote, Lye. Nat. Hist. New York, vol. viii. p. 201 (1867).

♂ ♀, Mexico (*Hartweg*); ♂ ♀, Haiti (*Tweedie*); ♀, West coast of South America (*Kellett & Wood*); New Granada. B.M.

Mr. Grote, in his description of *E. cinerosa*, states that he formerly regarded it as the female of *E. melancholica*; his opinion seems to have been changed by some remarks of Mr. Gundlach, which, however, apply perfectly to good examples of *E. ænotrus* ♂ (*melancholica*, Grote).

6. DILOPHONOTA DOMINGONIS.

Dilophonota domingonis, Butler, P. Z. S. 1875, p. 258. no. 52.

Haiti (*Tweedie*).

Type, B.M.

7. DILOPHONOTA OBSCURA.

♀, *Sphinx obscura*, Fabricius, Syst. Ent. p. 538 (1775).

♂ ♀, *Anceryx obscura*, Walker, Lep. Het. viii. p. 226. no. 7 (1856).

Dilophonota obscura, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 27 (1873).

Erinyis stheno, Hübner, Samml. exot. Schmett. ii. Add. pl. 12. figs. 1-4 (1806-24).

♂, *Anceryx rhebus*, Boisduval, Léop. Guat. p. 72 (1870).

? *Sphinx penæus*, Fabricius, Ent. Syst. iii. 1, p. 360. no. 15 (1793).

♂ ♀, Mexico (*Hartweg*); Haiti (*Tweedie*).

B.M.

Our examples from Haiti are paler than those from Mexico.

8. DILOPHONOTA PALLIDA.

♀, *Erinyis pallida*, Grote, Proc. Ent. Soc. Phil. v. pp. 78 and 168, pl. 1. fig. 6 (1865).

Cuba (*Poey*).

This appears only to differ from *D. gutturalis* in being somewhat larger; I rather doubt its being distinct, although Mr. Grote had both species before him.

9. DILOPHONOTA GUTTURALIS.

♂, *Anceryx gutturalis*, Walker, Lep. Het. viii. p. 227. no. 8 (1856).

Erinyis gutturalis, Grote, Proc. Ent. Soc. Phil. v. p. 79 (1865).

Haiti (*Tweedie*).

Type, B.M.

10. DILOPHONOTA LASSAUXII.

Anceryx lassauxii, Boisduval, Bull. Ent. Soc. France, 3^{me} sér. vii. p. clvii. no. 2 (1859).

Buenos Ayres.

“It has altogether the character of *Ænothrus* of Cramer and of *Omphaleæ* of Central America, but is easily distinguished from all the *Sphingidæ* of this genus by its black inferior wings, since they are yellow or fulvous, with a black border, in all the known species.”—*Boisduval*.

Section PHRYXUS¹, Hübner (restricted).

11. DILOPHONOTA CAICUS.

Sphinx caicus, Cramer, Pap. Exot. ii. p. 42, pl. 125. fig. F (1779).

Phryxus caicus, Hübner, Verz. bek. Schmett. p. 137. no. 1469 (1816).

Anceryx caicus, Walker, Lep. Het. viii. p. 228. no. 10 (1856).

Erinnyis caicus, Grote, Proc. Ent. Soc. Phil. v. p. 72 (1865).

♂, South America, Honduras (*Miller*); ♂ ♀, Haiti (*Tweedie*).

B.M.

Genus 7. ORYBA, Walker.

Oryba, Walker, Lep. Het. viii. p. 197. gen. 26 (1856).

ORYBA ROBUSTA.

Oryba robusta, Walker, Lep. Het. viii. p. 197. no. 1 (1856).

Brazil.

Genus 8. MACROSILA, Walker (part., nec Grote).

Macrosila (part.), Walker (nec Grote), Lep. Het. viii. p. 198. gen. 27 (1856).

Differs from *Diludia*, *Pseudosphinx*, and allies in its narrower wings, the (in the type) more incurved external angle, more arched costa, and longer outer margin of primaries and the somewhat longer head.

1. MACROSILA INCISA.

Macrosila incisa, Walker, Lep. Het. viii. p. 205. no. 11 (1856).

♂, Rio Janeiro (*Stevens*).

Type, B.M.

The general coloration of the wings is that of *Diludia*; but the primaries have an oblique diffused brown bar across them from the costa to the outer margin; the thorax is grey, with a pitchy streak on each side; the abdomen above dark grey, a black streak on each side, and an ochreous spot on the four basal segments; wings below light chocolate-brown, whitish at base; body whitish testaceous.

2. MACROSILA HANNIBAL.

Sphinx hannibal, Cramer, Pap. Exot. iii. 1, p. 39, pl. 216. fig. A (1782).

Phlegethontius hannibal, Hübner, Verz. bek. Schmett. p. 140. no. 1502 (1816).

Brazil (*Stevens*).

B.M.

Cramer's figure gives an entirely false notion of the form of the wings, the primaries being more elongated than in *Sphinx kalmia*; they are not incurved above external angle as in the type of the genus; and the coloration is more like *Sphinx lucetius* of Cramer.

¹ Characterized by its slightly smaller head, coarser antennæ, and the entire margin to the wings; the style of coloration is also not quite the same.

Genus 9. PROTOPARCE, Burmeister.

Protoparce, Burmeister, Abhandl. naturf. Gesellsch. Halle, p. 63. gen. 3 (1855).

If *M. rustica* were to be considered the type of *Macrosila*, Walker, as suggested by Mr. Grote, that genus would have to sink as a synonym of *Protoparce*, described the year previously; this, however is unnecessary; I have therefore rejected Mr. Grote's emendation, and adopted as the type of *Macrosila* a species possessing a vague likeness to the whole of the groups placed under that name by its author.

1. PROTOPARCE RUSTICA.

Sphinx rustica, Fabricius, Syst. Ent. p. 540 (1775).

Cocytius rustica, Hübner, Verz. bek. Schmett. p. 140. no. 1498 (1816).

Protoparce rustica, Burmeister, Abhandl. naturf. Gesellsch. Halle, p. 63 (1855).

Macrosila rustica, Walker, Lep. Het. viii. p. 199. no. 2 (1856).

Sphinx chionanthi, Smith & Abbot, Lep. Ins. Georg. i. p. 67, pl. 34 (1797).

Brazil (*Children*); Mexico (*Hartweg*); Haiti (*Tweedie*).

B.M.

2. PROTOPARCE FULVINOTATA.

Macrosila solani (part.), Walker, Lep. Het. viii. p. 206. no. 13 (1856).

♂, Port Natal (*Plant*); ♀ (*Gueinzus*); ♂, Ashanti.

Type, B.M.

Mr. Walker's ♀, var. β, is the typical female of his male; the darker form may be an extreme variety of the same species, but differs as follows:—"Body above dark brown, especially the thorax (the abdomen of the male paler), lateral yellow spots as usual, but the white segmental streaks better-defined, antennæ more distinctly white-tipped; body below whiter; wings above darker, subapical patch whiter; secondaries below with the central bars nearer together." I will call this form *P. mauritii*.

3 PROTOPARCE MAURITI, sp. n. ?

Macrosila solani ♂ var. β and ♀, Walker, Lep. Het. viii. p. 207 (1856).

♂ ♀, Mauritius (*Becker*); ♀, Port Natal (*Gueinzus*).

B.M.

This may perhaps be a variation of the preceding; it is altogether much darker, with the subapical patch of primaries whiter.

4. PROTOPARCE SOLANI.

Sphinx solani, Boisduval, Faune ent. de Madag. p. 76, pl. xi. fig. 2 (1833); Herrich-Schäffer, Samml. neuer oder wenig bekannter aussereurop. Schmett. pl. 22. fig. 101 (1850-1858).

Madagascar (*Stevens*).

Type, B.M.

This is distinct from the South-African species named *Macrosila solani* by Mr. Walker. Irrespective of the different pattern and coloration of the wings, it may at once be distinguished by the white (instead of fulvous) lateral spots on the abdomen.

5. *PROTOPARCE MORGANII*.

Macrosila morganii, Walker, Lep. Hct. viii. p. 206. no. 12 (1856).

Sierra Leone (*Morgan*); Congo (*Richardson*).

Type, B.M.

6. *PROTOPARCE OCHUS*.

Sphinx ochus, Klug, Neue Schm. Heft i. p. 4, pl. 3. fig. 2 (1836).

Macrosila ochus, Grote, Proc. Ent. Soc. Phil. v. p. 68 (1865).

Macrosila instita, Clemens, Journ. Acad. Nat. Sci. Phil. p. 164 (1859).

"Mexico" (*Klug*); "Honduras" (*Clemens*).

7. *PROTOPARCE DIFFISSA*.

Sphinx diffissa, Butler, P. Z. S. 1871, p. 82.

Buenos Ayres (*Burmeister*).

Type, B.M.

8. *PROTOPARCE EURYLOCHUS*.

Sphinx eurylochus, Philippi, Linn. Ent. xiv. p. 273. no. 13 A (1860).

? *Sphinx caestri*, Blanchard, Gay's Hist. de Chili, Lép. pl. 5. fig. 9 (1854).

Santiago.

The figure in Gay's 'Chili' is very poor; and the description is not precise.

9. *PROTOPARCE CELEUS*.

Phlegethontius celeus, Hübner, Samml. exot. Schmett. ii. pl. 164. figs. 3, 4 (1806-24).

Sphinx carolina, Donovan (nec Linn.), Nat. Hist. Brit. Ins. ii. pl. 361 (1804).

Sphinx quinquemaculata, Stephens, Ill. Brit. Ent., Haust. vol. i. p. 119 (1828).

Macrosila quinquemaculata, Clemens, Journ. Acad. Nat. Sci. Phil. p. 166 (1859).

United States (*Doubleday*).

B.M.

All the stages of this species are described in Packard's 'Guide,' p. 273.

10. *PROTOPARCE TROJANUS*.

Sphinx trojanus, Schaufuss, Nunquam Otiosus, i. p. 15 (1870).

Venezuela.

11. *PROTOPARCE CAROLINA*.

Sphinx carolina, Linnæus, Mus. Lud. Ulr. p. 346 (1764).

Manduca obscura carolina, Hübner, Samml. exot. Schmett. i. pl. 170. figs. 3, 4 (1806-24).

Phlegethontius carolina, Hübner, Verz. bek. Schmett. p. 140. no. 1503 (1816).

Macrosila carolina, Clemens, Journ. Acad. Nat. Sci. Phil. p. 165 (1859).

Delaware (*Doubleday*); Mexico (*Sallé*); Panama?, Haiti (*Tweddie*); Brazil, Pernambuco (*Argent*).

B.M.

The larva of *P. carolina* is described and figured in Packard's 'Guide,' p. 274, fig. 200.

I believe the form from Jamaica to be distinct; it is larger, has most of the markings

of primaries confused, the submarginal irregular whitish line much more distinct, the subapical whitish patch more distinct, and the whitish ground-colour of secondaries replaced by dull pale brown. I shall call it *P. jamaicensis*.

12. PROTOPARCE JAMAICENSIS, n. sp.

Sphinx carolina (part.), Walker, Lep. Het. viii. p. 216. no. 4 (1856).

♂ ♀, Jamaica.

B.M.

13. PROTOPARCE PAPHIUS.

Sphinx paphus, Cramer, Pap. Exot. iii. p. 39, pl. 216. fig. B (1782).

Phlegethonius paphus, Hübner, Verz. bek. Schmett. p. 140. no. 1501 (1816).

Surinam.

Possibly a melanistic variety of *P. carolina*; but, from the deep colouring of the primaries, it has a very distinct appearance.

14. PROTOPARCE GRISEATA.

Protoparce griseata, Butler, P. Z. S. 1875, p. 259. no. 53.

Venezuela (*Dyson*).

Type, B.M.

15. PROTOPARCE CONTRACTA.

Protoparce contracta, Butler, P. Z. S. 1875, p. 12. no. 24.

Rio Janeiro (*Stevens*).

Type, B.M.

Allied to *P. lucetius*.

16. PROTOPARCE PELLENIÆ.

Chærocampa pellenia, Herrich-Schäffer, Samml. aussereurop. Schmett. pl. 22. fig. 103 (1850-1858).

Sphinx pellenia, Walker, Lep. Het. Suppl. i. p. 36 (1864).

South America.

17. PROTOPARCE LUCETIUS.

Sphinx lucetius, Cramer, Pap. Exot. iv. p. 21, pl. 301. fig. B (1782).

Phlegethonius lucetius, Hübner, Verz. bek. Schmett. p. 140. no. 1501 (1816).

Brazil (*Stevens & Becker*).

B.M.

18. PROTOPARCE CINGULATA.

Sphinx cingulata, Fabricius, Syst. Ent. p. 545 (1775).

Agrius cingulatus, Hübner, Samml. exot. Schmett. ii. pl. 165. figs. 1, 2 (1806-24).

Macrosila cingulata, Clemens, Journ. Acad. Nat. Sci. Phil. p. 164 (1859).

Sphinx convolvuli, Drury (nec. Linn.), Ill. Nat. Hist. i. pl. 25. fig. 4 (1770).

Sphinx affinis, Goeze, Beytr. iii. 2, p. 215. no. 4 (1780).

Sphinx druræi, Donovan, Nat. Hist. Brit. Ins. p. 14, pl. 469 (1810).

Sphinx pungens, Eschscholtz, in Kotzebue's Reise, p. 218, pl. xi. fig. 28 (1821).

Jamaica, Mexico (*Hartweg*); Haiti (*Tweedie*); New Granada.

B.M.

19. PROTOPARCE CONVULVULI.

Sphinx convolvuli, Linnæus, Syst. Nat. i. ii. p. 789. no. 6 (1766); Roesel, -Ius. Belust. i. tab. vii. figs. 1-5 (1746).

Agrius convolvuli, Hübner, Verz. bek. Schmett. p. 140. no. 1506 (1816).

England [British Coll.]; Europe (*Becker*); South Africa (*Smith*); Port Natal (*Gueinzius*).

I cannot find any difference between African and European examples.

20. PROTOPARCE DISTANS.

Sphinx convolvuli, var. *distans*, Butler, Lep. New Zealand, in Voy. 'Erebus' and 'Terror,' i. p. 30. no. 10, pl. ix. fig. 11 (1874).

Sphinx convolvuli (part.), Boisduval, Voy. de l'Astrolabe, p. 187 (1832-35); Walker, Lep. Het. viii. p. 212. no. 1 (1856).

Sphinx roseafasciata, Scott (cit. Koeh), Indo-Austral. Lep.-Faun. p. 54 (1873).

New Zealand (*Sinclair, Bolton*); Sydney (*Lambert*); Australia. Type, B.M.

This is altogether darker in both sexes, and has a more ashy hue than the European species; the early stages will probably be quite unlike.

21. PROTOPARCE ORIENTALIS, n. sp. (Plate XCI. figs. 16, 17.)

Sphinx convolvuli, Moore, Cat. Lep. E.I. Comp. i. p. 267. no. 616 (1857).

North India (*James, Hearsay*); Scinde? (*Warwick*); North Bengal (*Saunders*); Moulmein (*Clerck*); Ceylon (*Templeton*); Hong-Kong (*Bowring*); Java (*Horsfield*); Hakodadi (*Whitely*). B.M.

This species is wonderfully like some African examples of *P. convolvuli*, being altogether paler than the European form; it differs from the African variety in always having the centre of the middle band of secondaries quite pale, and paler rosy bands on the abdomen; the larva differs considerably, being more slenderly formed, and without the double dorsal series of black spots. It feeds on the sweet potato.

22. PROTOPARCE PSEUDOCONVOLVULI.

Sphinx pseudoconvolvuli, Schaufuss, Nunquam Otiosus, i. p. 15 (1870).

Natal.

"Like a small pale *Sphinx convolvuli*; the underside uniform grey, only the margin a little darker. Width 75 millimetres." The above is the only description given of this insect.

23. PROTOPARCE? TISIPHONE.

Sphinx tisiphone, Linnæus, Mus. Lud. Ulr. p. 359. no. 19 (1764).

"Indies."

The description of this species is not sufficiently precise to enable me to determine it.

Genus 10. PSEUDOSPHERINX, Burmeister.

Pseudosphinx, Burmeister, Abhandl. naturf. Gesellsch. Halle, p. 65 (1855).

1. PSEUDOSPHERINX TETRIO.

Sphinx tetrio, Linnaeus, Mantissa, i. p. 538; Fabricius, Syst. Ent. p. 540. no. 14 (1775).

Pseudosphinx tetrio, Burmeister, Sp. Braz. in Abhandl. naturf. Gesellsch. Halle, 1855, p. 65.

♀, *Sphinx hasdrubal*, Cramer, Pap. Exot. iii. p. 90, pl. 246. fig. F (1782).

Hyloicus hasdrubal, Hübner, Verz. bek. Schmett. p. 139. no. 1488 (1816).

Macrosila hasdrubal, Walker, Lep. Het. viii. p. 202. no. 6 (1856).

Sphinx asdrubal (sic), Poey, Cent. Lep. Cuba (1832).

♂, Honduras (*Miller*); ♀, Haiti (*Cuming*, *Tweedie*); Brazil (*Argent*). B.M.

2. PSEUDOSPHERINX OBSCURA, n. sp.

Allied to *P. tetrio*. All the wings darker, the lines more prominent, primaries clouded with blackish brown; bands on abdomen better-defined. Expanse of wings 5 inches 4 lines to 6 inches 5 lines.

♂, Honduras (*Miller*); ♀, New Granada, ♂, Brazil (*Argent*, *Stevens*). B.M.

I was at first inclined to consider *P. obscura* a dark form of *P. tetrio*; but Herr Flohr, who knows *P. tetrio* in all its stages, informs me that he has seen no such variety, and he is satisfied that it is distinct. The male is very unlike *P. tetrio*, owing to the broad dark nebulous band (interrupted at end of cell by a greyish white patch) which crosses the middle of the wing, and by the dark triangular apical area; these characters, however, are not so pronounced in the female. The Brazilian males are deepest in colour, and more elegantly formed than our male from Honduras.

3. PSEUDOSPHERINX ? LUCTIFERA.

Macrosila luctifera, Walker, Lep. Het. Suppl. i. p. 35 (1864).

New Guinea, Mysol, Ceram.

I have not seen the type of this species (formerly in Mr. Saunders's collection); therefore I am unable to be certain of its genus.

4. PSEUDOSPHERINX MENEPHRON.

Sphinx menephron, Cramer, Pap. Exot. iii. p. 164, pl. 285. fig. A (1782).

Macrosila menephron, Walker, Lep. Het. viii. p. 210. no. 18 (1856).

Amboina.

5. PSEUDOSPHERINX NYCTIPHANES.

Macrosila nyctiphanes, Walker, Lep. Het. viii. p. 209. no. 16 (1856).

Sillhet (*Doubleday*, *Sowerby*, *Stainsforth*, *Dale*). Type, B.M.

6. PSEUDOSPHING INEXACTA.

Macrosila inexacta, Walker, Lep. Het. viii. p. 208. no. 14 (1856).

North India (*Hawes, Doubleday*).

Type, B.M.

Mr. Moore has the sexes collected in Masuri by Messrs. Grote and Hutton.

7. PSEUDOSPHING CYRTOLOPHIA. (Plate XCI. figs. 11–13, XCII. fig. 6.)

Pseudosphinx cyrtolophia, Butler, P. Z. S. 1875, p. 259. no. 54.

Madras.

Type, coll. F. Moore.

Genus 11. DAREMMA, Walker.

Daremma, Walker, Lep. Het. viii. p. 230. gen. 31 (1856).

DAREMMA UNDULOSA.

Daremma undulosa, Walker, Lep. Het. viii. p. 231. no. 1 (1856).

Sphinx brontes, Boisduval (nee Drury), Sp. Gén. Léop. pl. 15. fig. 6 (1832).

Macrosila brontes, Walker, Lep. Het. viii. p. 199. no. 1 (1856).

Ceratomia repentinus, Clemens, Journ. Acad. Nat. Sci. Phil. 1859, p. 180.

Sphinx repentinus, Grote, Proe. Ent. Soc. Phil. v. p. 39 (1865).

Daremma repentinus, Grote, *l. c.* p. 164. no. 88 (1865).

West Canada (*Bush*); United States (*Doubleday & Jones*).

Type, B.M.

Mr. Walker's type is simply a rather small specimen; it does not differ more from the examples referred by Mr. Walker to *Sphinx brontes* than they do from each other, the primaries being 5 millims. less in expanse than Boisduval's figure, and the pattern almost identical.

Genus 12. SYZYGIA¹, Grote and Robinson.

Syzygia, Grote & Robinson, Proc. Ent. Soc. Phil. v. p. 189 (1865).

SYZYGIA AFFLICTA.

Sphinx afflicta, Grote, Proe. Ent. Soc. Phil. v. p. 71 (1865).

Syzygia afflicta, Grote & Robinson, *l. c.* p. 164. no. 87, pl. 3. fig. 5 (1865).

Macrosila afflicta, Walker, Lep. Het. Suppl. v. p. 1855 (1866).

"Tropical Insular District!"

Sphinx pamphilus of Cramer, placed by Messrs. Grote and Robinson as a second species of this genus (P. E. S. P. v. p. 189), is certainly a *Diludia*.

¹ Seems allied to *Daremma*; in the description a comparison is drawn between it and *Diludia*. Mr. Grote has proposed (1866) to withdraw it as a genus; but I rather doubt the advantage of this step.

Genus 13. DOLBA, Walker.

Dolba, Walker, Lep. Het. viii. p. 229. gen. 30 (1856).

1. DOLBA FO.

Zonilia fo, Walker, Lep. Het. viii. p. 195. no. 6 (1856).

North India (*Mauger & Argent*).

Type, B.M.

2. DOLBA HYLEUS.

Sphinx hylæus, Drury, Ill. Nat. Hist. ii. p. 45, pl. 26. fig. 3 (1773).

Hyloicus hylæus, Hübner, Verz. bek. Schmett. p. 139. no. 1487 (1816).

Dolba hylæus, Walker, Lep. Het. viii. p. 230. no. 1 (1856).

Sphinx prini, Smith & Abbot, Lep. Ins. Georg. i. p. 69, pl. 35 (1797).

Philadelphia (*Milne*); United States (*Doubleday*); Massachusetts (*Sheppard*). B.M.

The Mexican species is distinct.

3. DOLBA HARTWEGII.

Dolba hartwegii, Butler, P. Z. S. 1875, p. 259. no. 55.

Oaxaca (*Hartweg*).

Type, B.M.

Genus 14. EURYGLOTTIS, Boisduval.

Euryglottis, Boisduval, Sp. Gén. Lép. p. 14 (1875).

Allied to *Diludia*; primaries elongate subtriangular, inner margin slightly waved; discocellulars very oblique, basal half and costal area below clothed with hair-like scales, which obscure the venation; secondaries ovate-triangular, outer margin undulated, discocellulars obscured by elongate scales, oblique, upper about three times as long as lower, and slightly concave; head and thorax above, and entire body below, clothed with coarse erect bristling scales; antennæ two fifths the length of primaries; palpi large, closely compressed, very hairy.

Type *E. aper*.

EURYGLOTTIS APER.

Macrosila aper, Walker, Lep. Het. viii. p. 204. no. 10 (1856); Herrich-Schäffer, Samml. ausser-europ. Schmett. pl. 83. fig. 477 (1850-1858).

Bogota (*Stevens*); var. ? Columbia (*Becker*).

Type, B.M.

A very handsome and elaborately ornamented moth.

Genus 15. DILUDIA, Grote and Robinson.

Diludia, Grote & Robinson, Proc. Ent. Soc. Phil. v. p. 188 (1865).

1. DILUDIA BRONTES.

Sphinx brontes, Drury, Ill. Nat. Hist. ii. p. 53, pl. 29. fig. 4 (1773).

Diludia brontes, Grote & Robinson, Proc. Ent. Soc. Phil. v. p. 164 (1865).

Macrosila collaris, Walker, Lep. Het. viii. p. 201. no. 5 (1856).

Sphinx cubensis, Grote, Proc. Ent. Soc. Phil. 1865, p. 189.

Jamaica (*Argent*); Haiti (*Tweedie*).

B.M.

I think it very probable that Drury's type came from Jamaica. It was described from the collection of Dr. Fothergill; and all the species noted as from that collection are said to come either from Jamaica or New York; so that a locality ticket may easily have been transposed. Moreover our example from Jamaica agrees better with Drury's figure than those from Haiti, although still differing in the indistinctness of the pale transverse band of secondaries. In the event of the two species proving not to be identical, the Insular type will, of course, have to take Walker's specific name and Grote's generic, and will then stand as *Diludia collaris*. I cannot but regret that Mr. Grote has thought it necessary to add to the synonymy by proposing names for species before they were required. It is true that he might otherwise have been superseded; but, as a fact, it does not matter who names a species, so long as the name given be euphonious, whilst on the other hand a cumbrous synonymy is a great evil.

2. DILUDIA PAMPHILIUS.

Sphinx pamphilius, Cramer, Pap. Exot. iv. p. 217, pl. 294. fig. E (1782).

Dolba pamphilus (sic), Walker, Lep. Het. viii. p. 230. no. 2 (1856).

Surinam.

This is certainly not *Syzigia afflicta* of Grote; but I strongly suspect it to be *Diludia brontes* badly figured.

3. DILUDIA FLORESTAN.

Sphinx florestan, Cramer, Pap. Exot. iv. p. 216, pl. 394. fig. B (1782).

Diludia florestan, Grote & Robinson, Proc. Ent. Soc. Phil. v. p. 164. no. 85 (1865).

Cocytius florestan (sic), Hübner, Verz. bek. Schmett. p. 140. no. 1499 (1816).

Macrosila florestan (part.), Walker, Lep. Het. viii. p. 203. no. 8 (1856).

♂ ♀, Rio Janeiro (*Stevens*).

B.M.

4. DILUDIA BREVIMARGO.

Diludia brevimargo, Butler, P. Z. S. 1875, p. 12. no. 25.

Brazil (*Becker*).

Type, B.M.

5. DILUDIA ANALIS.

Sphinx analis, Felder, Reise der Novara, Lep. iv. tab. 78. fig. 4 (Nov. 1874).

—————?

6. *DILUDIA RUFESCENS*.

Diludia rufescens, Butler, P. Z. S. 1875, p. 12. no. 26.

Rio Janeiro (*Stevens*).

Type, B.M.

7. *DILUDIA LICHENEA*.

Macrosila lichenea (part.), Walker, Lep. Het. viii. p. 204. no. 9 (1856).

♂ ♀, Brazil (*Becker*).

Type, B.M.

Mr. Walker's description is a compound one; it begins with the male, which I therefore consider the type. The description of the secondaries, "Hind wings whitish, tinged with brown and with several darker brown bands," is evidently taken from the example from Rio Janeiro, supposed by Walker to be a female variety, but clearly a distinct species; the secondaries of *D. lichenea* are very similar to those of *D. florestan*, excepting that the central whitish bands in the male are more distinct.

8. *DILUDIA SESQUIPLEX*.

Sphinx sesquipler, Boisduval, Lép. Guat. p. 73 (1870); Felder, Reise der Nov., Lep. iv. tab. 78. fig. 5 (Nov. 1874).

Guatemala.

One of the handsomest species in the genus.

9. *DILUDIA ALBIPLAGA*.

Macrosila albiplaga, Walker, Lep. Het. viii. p. 202. no. 7 (1856).

Diludia albiplaga, Grote & Robinson, Notes on North-American Lep. described by Mr. Walker, Tr. Am. Ent. Soc. p. 10 (1868).

Rio Janeiro (*Stevens*).

Type, B.M.

10. *DILUDIA OBLIQUA*.

Macrosila obliqua, Walker, Lep. Het. viii. p. 208. no. 15 (1856).

Ceylon (*Templeton*).

Type, B.M.

11. *DILUDIA GRANDIS*.

Diludia grandis, Butler, P. Z. S. 1875, p. 260. no. 56.

Nepal.

Type, coll. F. Moore.

12. *DILUDIA? LATREILLII*.

Sphinx latreillei, McLeay, in King's Survey of Australia, Appendix, p. 464. no. 165 (1827).

Australia.

McLeay quotes this as "*Dielophila latreillii*, De Cerisy, MSS."

13. *DILUDIA* ? *GODARTI*.

Sphinx godarti, McLeay, in King's Survey of Australia, Appendix, p. 464. no. 166 (1827).

Australia.

Quoted by McLeay as "*Dielophila godarti*, De Cerisy, MSS." The two species above referred to are so insufficiently described that I have been unable to recognize them; I am satisfied that they are not referable to *Deilephila*; but they do not agree in all respects with any *Diludia* in the National collection. Walker omitted them from his catalogue. Possibly they are *Chærocampæ*.

14. *DILUDIA CASUARINÆ*.

Macrosila casuarinæ, Walker, Lep. Het. viii. p. 210. no. 19 (1856).

Sidney (*Sinclair*); Australia, North Australia (*Elsey*).

Type, B.M.

15. *DILUDIA NEBULOSA*, u. sp.

Macrosila casuarinæ, var., Walker, Lep. Het. viii. p. 210 (1856).

Cape York (*Macgillivray*).

Type, B.M.

This species is nearly allied to *D. discistriga*.

16. *DILUDIA DISCISTRIGA*.

Macrosila discistriga, Walker, Lep. Het. viii. p. 209. no. 17 (1856); ? Lep. Het. Suppl. i. p. 34 (1864).

Hong-Kong (*Bowring*); North China (*Cuming*); Java (*Horsfield*). Type, B.M.

The larva and pupa of *D. discistriga* are figured by Dr. Semper, Verhandl. zool.-botan. Gesellsch. Wien, pl. xxiii. figs. 2 A, 2 B (1867). Mr. Moore has both sexes of the species taken by Captain Hutton at Masuri, and the female from Bombay.

17. *DILUDIA MELANOMERA*. (Plate XCIV. fig. 4.)

Diludia melanomera, Butler, P. Z. S. 1875, p. 13. no. 27.

Silhet (*Dale*).

Type, B.M.

Mr. Moore also has this species from Silhet, to which habitat it appears to be restricted.

18. *DILUDIA RUBESCENS*.

Diludia rufescens, Butler, P. Z. S. 1875, p. 260. no. 57, (*rubescens*) p. 623.

North India.

Type, coll. F. Moore.

19. *DILUDIA INCRETA*.

Anceryx increta, Walker, Lep. Het. Suppl. i. p. 36 (1864).

Shanghai, North China (*Fortune*).

Type, B.M.

I found the example registered "North China" among our examples of *D. discistriga*; it is not, however, quoted by Mr. Walker under that species. Mr. Moore has this species from Masuri and South India.

20. *DILUDIA VATES*. (Plate XCI. figs. 18, 19.)*Diludia vates*, Butler, P. Z. S. 1875, p. 13. no. 28.*Macrosila dicistriga* (part.), Walker, Lep. Het. viii. pp. 209, 210 (1856).*Anceryx pinastri* (g), Walker, l. c. p. 223 (1856).Ceylon (*Templeton*); Madras, Moulmein (*Clerek*); Silhet (*Sowerby*); North India
(*Stevens*). Type, B.M.The larva is pale green, with darker oblique green lines and reddish-edged spiracles;
front segments and horn tuberculated. It feeds on *Gmelina arborea* according to W.
Elliot, on privet, *Polownia*, &c. according to Mr. George Lewis.21. *DILUDIA NATALENSIS*. (Plate XCIV. fig. 5.)*Diludia natalensis*, Butler, P. Z. S. 1875, p. 13. no. 29.Natal (*Gueinzus*).

Type, B.M.

Genus 16. *HYLOICUS*, Hübner.*Hyloicus*, Hübner, Verz. bek. Schmett. p. 138 (1816).1. *HYLOICUS PINASTRI*.*Sphinx pinastri*, Linnæus, Syst. Nat. i. ii. p. 802. no. 22 (1766).*Hyloicus pinastri*, Hübner, Verz. bek. Schmett. p. 139. no. 1483 (1816).England [Brit. Coll.]; Europe (*Becker*).

B.M.

2. *HYLOICUS SEQUOIE*.*Sphinx sequoiæ*, Boisduval, Ann. Soc. Ent. Belge, xii. p. 66. no. 70 (1868).*Hyloicus sequoiæ*, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 27 (1873).*Anceryx coniferarum* ♂, Walker, Lep. Het. viii. p. 224. no. 2 (1856).United States (*Doubleday*).

B.M.

The *Anceryx coniferarum* of Walker has been placed as a synonym of *Ellema harrisii*;
his female, however, appears to me to be Abbot's species, whilst the male is undoubtedly
generically distinct.3. *HYLOICUS ASIATICUS*.*Hyloicus asiaticus*, Butler, P. Z. S. 1875, p. 260. no. 58.Scinde ? (*Warwick*).

Type, B.M.

4. *HYLOICUS UNIFORMIS*.*Hyloicus uniformis*, Butler, P. Z. S. 1875, p. 261. no. 59.

North-west Hinnalayas.

Type, coll. F. Moore.

The smallest species in the genus.

5. HYLOICUS STROBI.

Sphinx strobi, Boisduval, Ann. Soc. Ent. Belge, xii. p. 67. no. 71 (1868).

Hyloicus strobi, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 27 (1873).

California (*Lorquin*).

Also allied to *H. pinastri*. M. Boisduval thinks the species may possibly have been taken in Chili; but he is tolerably certain that California is the correct locality.

6. HYLOICUS PLEBEIA.

Sphinx plebeia, Fabricius, Gen. Ins. p. 273 (1776).

Anceryx plebeia, Walker, Lep. Het. viii. p. 224. no. 3 (1856).

Hyloicus plebeia, Grote & Robinson, Proc. Ent. Soc. Phil. v. p. 166. no. 99 (1865).

United States (*Doubleday*); Delaware (*Doubleday*).

B.M.

7. HYLOICUS PÆCILA.

Sphinx pæcila, Stephens, Ill. Brit. Ent. Haust. i. p. 122. no. 8 (1828).

Anceryx pæcila, Walker, Lep. Het. viii. p. 229. no. 13 (1856).

—— ? (*Vigors's Coll.*).

Type, B.M.

Like a strongly marked female of *H. plebeia*, which I believe it to be.

8. HYLOICUS POEYI.

Hyloicus poeyi, Grote, Lyc. Nat. Hist. New York, p. 200 (1863).

"Atlantic District!"

9. HYLOICUS JUNIPERI.

Sphinx juniperi, Boisduval, Voy. de Delagorgue, ii. p. 595. no. 112 (1847).

Anceryx juniperi, Walker, Lep. Het. viii. p. 229. no. 12 (1856).

Port Natal (*Gueinzius & Stevens*).

B.M.

This is the only Sphingid described by Dr. Boisduval in the above work.

Genus 17. SPHINX, Linnæus.

Sphinx, Linnæus, Syst. Nat. i. 2, p. 796 (1766).

1. SPHINX CHERSIS.

Lethia chersis, Hübner, Samml. exot. Schmett. ii. pl. 167. figs. 1, 2 (1806).

Sphinx chersis, Grote and Robinson, Proc. Ent. Soc. Phil. vol. v. p. 165. no. 92 (1865).

Sphinx cinerea, Harris, Cat. N.-Am. Sph., Sill. Journ. vol. xxxvi. p. 295 (1839); Scudder, Harris's

Corresp. p. 282, pl. 2. fig. 6, larva (1869).

United States (*Doubleday*); North America.

B.M.

2. SPHINX LEUCOPHEATA.

Sphinx leucopheata, Clemens, Journ. Acad. Nat. Sci. Phil. 1859, p. 168.

Sphinx lugens (part.), Walker, Lep. Het. viii. p. 219. no. 11 (1856).

Oaxaca, Mexico (*Hartweg*).

B.M.

3. SPHINX LUGENS.

Sphinx lugens, Walker, Lep. Het. viii. p. 219. no. 11 (1856).

Sphinx andromedæ, Boisduval, Lép. Guat. p. 74 (1870).

Oaxaca, Mexico (*Hartweg*).

Type, B.M.

Although coming from the same locality as the preceding, and very like it in its general characters, I believe this species to be quite distinct. It is altogether shorter, broader, and darker, and has the pale bars of secondaries much narrower and whiter.

4. SPHINX JASMINEARUM.

Sphinx jasminearum, Boisduval, Griffith's Anim. Kingd. vol. ii. pl. 83. fig. 1 (1832).

New York, Pennsylvania.

5. SPHINX VANCOUVERENSIS.

Sphinx vancouverensis, H. Edwards, Proc. Calif. Acad. Sci. v. p. 111 (1874).

Esquimaux, Vancouver Island (*Bremner*).

Taken in August 1871. It seems closely allied to *S. gordius*.

6. SPHINX GORDIUS.

Sphinx gordius, Cramer, Pap. Exot. vol. iii. p. 91, pl. 247. fig. B (1782).

Lethia gordius, Hübner, Verz. bek. Schmett. p. 141. no. 1512 (1816).

Sphinx pæcila, Stephens, Ill. Brit. Ent., Haust. i. p. 222 (1828).

United States (*Doubleday*); North America (*Jones*).

B.M.

I cannot see any reason for separating this generically from *Sphinx*.

7. SPHINX LUSCITOSA.

Sphinx luscitiosa, Clemens, Journ. Acad. Nat. Sci. Phil. p. 172 (1859).

Lethia luscitiosa, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 28 (1873).

New York; Wisconsin.

8. SPHINX OREODAPHNE.

Sphinx oreodaphne, H. Edwards, Proc. Calif. Acad. Sci. v. p. 109 (1874).

California.

Henry Edwards says:—"Taken on the wing, about flowers of Californian Laurel (*Oreodaphne californica*), near St. Helena, Napa County, in June 1872. A strongly

marked species, readily distinguished by its pale fore wings, and by the triangular mark of the thorax."

9. SPHINX JUSTICIÆ.

Sphinx justiciæ, Walker, Lep. Het. viii. p. 220. no. 12 (1856).

Brazil (*Stevens*); Rio Janeiro (*Stevens*).

Type, B.M.

10. SPHINX ANTEROS.

Sphinx anteros, Ménétriés, Enum. Corp. Anim. Mus. Imp. Acad. Sci. Petrop. ii. p. 131. no. 1478, pl. xii. fig. 1 (1857).

"New Friburg (not far from Rio Janeiro)."

Allied to the preceding species and to *S. chersis*.

11. SPHINX MEROPS.

Sphinx merops, Boisduval, Lép. Guat. p. 73 (1870).

Honduras and Mexico.

Closely allied to *S. justiciæ*, from which it seems chiefly to differ in having three black bands on the under surface of secondaries.

12. SPHINX? LANCEOLATA.

Sphinx lanceolata, Felder, Reise der Nov., Lep. iv. tab. lxxviii. fig. 3 (Nov. 1874).

Guatemala and Mexico.

Seems allied to *S. chersis*, but may possibly belong to the genus *Pseudosphinx*; without seeing the insect it is impossible to decide.

13. SPHINX CAPREOLUS.

Anceryx capreolus, Schaufuss, Nunquam Otiosus, i. p. 16 (1870).

"Virmont"¹ (*Kaden*); "Venezuela!" (*Schaufuss*).

This appears to me to be a very faulty description of a faded *S. kalmia*, Sm. & Abb.; for although the description of the body² and the under surface of the wings does not agree with *S. kalmia*, the former *may* be rubbed or greasy, and the latter faded. The apparently arbitrary alteration of the locality makes me suspicious of there being an error somewhere: if the species was, as Dr. Schaufuss says, labelled "Mit der Bezeichnung 'Virmont' in der Sammlung," why alter it to Venezuela?

¹ ? State Vermont, United States.

² The body (apparently only the abdomen) is described as pitch-black at the sides, with a pale spot, with a slender longitudinal red line and two other black ones; whereas *S. kalmia* is black at the sides, with about five white bars, interrupted by a longitudinal red-brown band with a central black line.

14. SPHINX KALMIÆ.

Sphinx kalmiæ, Smith and Abbot, Lep. Ins. Georg. i. p. 73, pl. 37 (1797).

Lethia kalmiæ, Hübner, Verz. bek. Schmett. p. 141. no. 1511 (1816).

Canada West (*Bush*); New York (*Doubleday*); United States.

B.M.

15. SPHINX DRUPIFERARUM.

Sphinx drupiferarum, Smith and Abbot, Lep. Ins. Georg. i. p. 71. pl. 36 (1797).

Lethia drupiferarum, Hübner, Verz. bek. Schmett. p. 141. no. 1510 (1816).

United States.

B.M.

16. SPHINX LIGUSTRI.

Sphinx ligustri, Linnaeus, Fauna Succica, p. 287. no. 1087.

Lethia ligustri, Hübner, Verz. bek. Schmett. p. 141. no. 1508 (1816).

Sphinx spireæ, Esper, Eur. Schmett. ii. p. 21, pl. 42. fig. 1 (1777).

England [Brit. Coll.]; Europe (*Becker*).

B.M.

17. SPHINX? SNELLI.

Sphinx snelli, Weyenbergh, Ins. Foss. (1871).

———?

Genus 18. LINTNERIA, n. gen.

Agrius, Lintner (part.), nec Hübner.

1. LINTNERIA EREMITUS.

Agrius eremitus, Hübner, Samml. exot. Schmett. ii. pl. 166. figs. 1, 2 (1806-24).

Sphinx eremitus, Walker, Lep. Hct. viii. p. 221. no. 16 (1856).

Sphinx sordida, Harris, Sill. Journ. vol. xxxvi. p. 296 (1839).

? *Sphinx abadonna*, Fabricius, Ent. Syst. Suppl. p. 435. nos. 56, 57 (1793).

United States (*Doubleday, Milne*).

B.M.

This species differs from all others (until recently) referred to *Sphinx*, in its shorter and broader primaries. It cannot be associated with *Sph. lugens*, as that species cannot be separated generically from *Sph. justiciæ*, being in fact nearly allied to *Sph. leucophæata*. I cannot follow my friend Grote in adopting the name incorrectly applied by Hübner in his figure, the *Agrius* of the Verzeichniss being a mixture of *Philampelus* and *Protoparce*.

Sphinx abadonna is said to come from East India; but this locality may be wrong, as many of Fabricius's localities undoubtedly are.

2. LINTNERIA? PERELEGANS.

Sphinx perelegans, H. Edwards, Proc. Calif. Acad. Sci. v. p. 109 (Jan. 1874).

Gilroy, Santa Clara County, California (*G. R. Crotch*).

Mr. Henry Edwards says:—"This beautiful specimen closely resembles *Sph. eremitus*, Walk., of the Atlantic States, but is readily known by its more brilliant grey colouring, by the very sharply defined demi-bands, and by the strongly marked whitish submarginal band of the fore wings."

3. LINTNERIA? EREMITOIDES.

Sphinx eremitoides, Strecker, Lep. Rhop. and Het. p. 93 (1874).

Kansas.

Very briefly described, and, owing to Mr. Strecker's incomprehensible affection for unmanageably extensive genera, described as a *Sphinx*, without a hint as to its structural characters. In the same page he described a *Hemaris* as a *Macroglossa*, which at first fairly puzzled me, it not being a New-World genus; but, fortunately, he observed that it was allied to *M. diffinis* (one of the most typical species of *Hemaris*), which at once enlightened me.

Mr. Grote thinks it probable that *S. eremitoides* is = *S. lugens* of Walker; but (judging from Mr. Grote's previous papers on the Sphingidæ) I am doubtful whether he knows the *S. lugens* of Walker. It is certain that Clemens did not; for he separated it by a wide interval from his *S. leucophæata*.

Genus 19. CERATOMIA, Harris.

Ceratomia, Harris, Sill. Journ. vol. xxxvi. p. 293 (1839).

1. CERATOMIA AMYNTOR.

Agrius amyntor, Hübner, Samml. exot. Schmett. ii. (1806).

Ceratomia amyntor, Grote and Robinson, Proc. Ent. Soc. Phil. vol. v. p. 164. no. 89 (1865).

Ceratomia quadricornis, Harris, Sill. Journ. xxxvi. p. 293 (1839).

United States (*Doubleday*); Massachusetts (*Sheppard*); Mexico (*Sallé*). B.M.

2. CERATOMIA HAGENI.

Ceratomia hageni, Grote, Bull. Buff. Soc. Nat. Sci. ii. p. 149 (1874).

Texas.

Genus 20. NEPHELE, Hübner (ZONILIA, Walker).

Nephele, Hübner, Verz. bek. Schmett. p. 133. gen. 5 (1816).

1. NEPHELE ÆQUIVALENS.

Pachylia æquivalens, Walker, Lep. Het. viii. p. 191. no. 5 (1856).

Sierra Leone (*Morgan*).

Type, B.M.

This species is certainly a *Nephele*. It differs from *Pachylia* in the form of the wings. The latter genus appears to be strictly confined to the New World.

2. NEPHELE ÆNOPION.

Orneus ænopion, Hübner, Samml. exot. Schmett. ii. pl. 159. figs. 1, 2 (1806).

Deilephila ænopion, Boisduval, Faune Ent. de Madag. p. 75. no. 8 (1833).

Philampelus ænopion, Walker, Lep. Het. viii. p. 182. no. 14 (1856).

Zonilia ænopion, Walker, l. c. Suppl. i. p. 33 (1864).

Bourbon, Madagascar.

3. NEPHELE DENSOI.

Zonilia densoi, Keferstein, Entomol. Notizen, p. 14. fig. 5 (1870).

Madagascar.

I have been unable to refer to this species.

4. NEPHELE ROSÆ. (Plate XCIV. fig. 3.)

Nephele rosæ, Butler, P. Z. S. 1875, p. 14. no. 30.

Boma (*Mrs. Monteiro*).

Type, B.M.

5. NEPHELE KADENI.

Pachylia kadeni, Schaufuss, Nunquam Otiosus, i. p. 16 (1870).

"S. America."

Said to be allied to *N. ænopion*; but as the primaries are described as crossed by two purplish whitish bands, and the secondaries as spotted with white, with alternately broad and narrow bands, I think the affinity cannot be very great. *N. ænopion* is an African species. I doubt the locality of *N. kadeni*.

6. NEPHELE ARGENTIFERA.

Zonilia argentifera, Walker, Lep. Het. viii. p. 194. no. 4 (1856).

Port Natal.

7. NEPHELE VARIEGATA.

Nephele variegata, Butler, P. Z. S. 1875, p. 15. no. 31.

Congo (*Richardson*); Africa (*Milne*); Abyssinia.

Type, B.M.

Possibly a variety, or more probably a local form, of *N. accentifera*.

8. NEPHELE ACCENTIFERA.

Sphinx accentifera, Palisot de Beauvais, Ins. rec. en Afrique et en Amérique, p. 264, pl. xxiv. fig. 1 (1805).

Sphinx (Deilephila) tridyma, Van der Hoeven, Tijd. voor Natuurlijke Gesch. en Phys. vii. p. 278. no. 2, pl. 5. figs. 2 a, 2 b (1840).

Deilephila Ranzani, Bertoloni, Mem. Accad. Sei. Istit. Bologna, ii. p. 183. no. 21, tab. 9. fig. 6 (1850).

Sierra Leone (*Morgan*).

B.M.

This species was omitted by Mr. Walker; and I have to thank Mr. Kirby for calling my attention to it. Bertoloni's figure is very poor, the abdomen being represented as uniform.

9. NEPHELE MALGASSICA. (*N. Densoi*?)

Zonilia malgassica, Felder, Reise der Nov., Lep. iv. tab. 76. fig. 2 (1874).

Madagascar.

10. NEPHELE PENEUS.

Sphinx peneus, Cramer, Pap. Exot. i. p. 139, pl. 88. fig. D (1779).

Zonilia peneus (part.), Walker, Lep. Het. viii. p. 193. no. 2 (1856).

Var. *Nephele peneus*, Hopffer in Peters's Reise nach Mossambique, Ins. p. 422, pl. 27. fig. 11 (1862).

West Africa (*Stevens*); Africa (*Milne*); Sierra Leone (*Morgan*).

B.M.

11. NEPHELE COMMA.

Nephele comma, Hopffer in Peters's Reise nach Mossambique, Ins. p. 424, pl. 27. fig. 12 (1862).

Zonilia comma, Walker, Lep. Het. Suppl. i. p. 33 (1864).

Zonilia viridescens, var. γ , Walker, Lep. Het. viii. p. 193 (1856).

Port Natal (*Gueinzus*).

B.M.

Our example is darker and not so green as Hopffer's figure.

12. NEPHELE VIRIDESCENS.

Zonilia viridescens (part.), Walker, Lep. Het. viii. p. 192. no. 1 (1856).

Port Natal (*Gueinzus*).

Type, B.M.

13. NEPHELE FUNEBRIS.

Sphinx funebris, Fabricius, Ent. Syst. iii. p. 371. no. 47 (1793).

Zonilia viridescens (part., and var. β), Walker, Lep. Het. viii. p. 192. no. 1 (1856).

Congo (*Richardson*); Ambriz (*Monteiro*).

B.M.

This species may at once be distinguished from the preceding by the much more regular submarginal line of primaries, the usually greener tint, and the less prominent lateral black bars on the abdomen, which at the base are obsolete; the dark border of secondaries is also broader. The variety described by Walker has a silver spot on the primaries somewhat like that of *N. comma*, but less oblique.

14. NEPHELE HESPERA. (Plate XCI. figs. 20, 21.)

Sphinx hespera, Fabricius, Syst. Ent. p. 546. n. 33 (1775).

Sphinx chiron, Cramer, Pap. Exot. ii. p. 62, pl. 137. fig. E (1779).

Nephele chiron, Hübner, Verz. bek. Schmett. p. 133. no. 1434 (1816).

Zonilia chiron, Walker, Lep. Het. viii. p. 196. no. 8 (1856).

Perigonia obliterans, Walker, Lep. Het. Suppl. i. p. 28 (1864).

Var. *Sphinx morpheus*, Cramer, Pap. Exot. ii. p. 84, pl. 149. fig. D (1779).

Nephele morpheus, Hübner, Verz. bek. Schmett. p. 133. no. 1432 (1816).

Zonilia morpheus, Walker, Lep. Het. viii. p. 194. no. 5 (1856).

Sphinx didyma, Fabricius, Sp. Ins. ii. p. 148. no. 41 (1781).

Nephele didyma, Hübner, Verz. bek. Schmett. p. 133. no. 1433 (1816).

N. hespera type: N. India (*Baker, Strachey*); Almorah (*Stevens*); Landoor (*Hearsay*); E. India, Canara (*Ward*); Ceylon (*Templeton*); Australia (*Hunter*). B.M.

N. morpheus type: N. India (*Baker*); Landoor (*Hearsay*); Canara (*Ward*); Ceylon (*Templeton*); Australia (*Hunter*). B.M.

"Larva dark green, unspotted, without eyes; front segments nonretractile, but attenuated in front, with small globose head. A longitudinal line from the front of sixth segment white, and rising abruptly near the tail, fading in front into yellowish green. The fourth, fifth, and upper part of sixth segments are striped diagonally, the lines being rather faintly defined except on the fifth segment, where (near the bottom of the side) they are pure white. Horn purplish grey; scaly legs ditto, with dark articulations and stripe down the middle. Spiracles purplish red, ill-defined."

"Changes beneath fallen leaves and rubbish. Chrysalis state lasts about twenty days. End of April, May, and June. Feeds on the Kler Kei (*Mal.*). Kowlee Murrei (*Car.*)."

15. NEPHELE SUBVARIA.

Zonilia subvaria, Walker, Lep. Het. viii. p. 196. no. 9 (1856).

Australia (*Strange*).

Type, B.M.

16. NEPHELE METAPYRRHA.

Zonilia metapyrrha, Walker, Lep. Het. viii. p. 196. no. 10 (1856).

Deilephila dalii, Newman, Trans. Ent. Soc. 2nd ser. vol. iv. p. 54 (1857).

Moreton Bay (*Gibbons*).

Type, B.M.

It is possible that this may prove to be a variety of the preceding. I think, however, considering their differences, Mr. Walker would scarcely have been justified in uniting them, there being only one example of each in the collection.

17. NEPHELE VAU.

Zonilia vau, Walker, Lep. Het. iii. p. 197. no. 11 (1856).

Var. *Zonilia schimperi*, Lucas, Ann. Soc. Ent. France, 3^{me} sér. tom. v. p. 603, pl. 13. fig. 1 (1857).

(Kartoum) Abyssinia (*Lucas*); ———?

Type, B.M.

The figure by Lucas represents the species as much redder than our example, but does not otherwise differ.

Zonilia antipoda, *rhadama*, and *zebu* of Boisduval appear to be MS. names (*cf.* p. 630).

18. NEPHELE ? FAVILLACEA.

Anceryx favillacea, Walker, Lep. Het. Suppl. v. p. 1856 (1866).

Zambesi river.

SPHINGINÆ *incertæ sedis*.

Genus 21. CALYMNIA, Walker.

Calymnia, Walker, Lep. Het. viii. p. 123. gen. 12 (1856).

CALYMNIA PANOPUS.

Sphinx panopus, Cramer, Pap. Exot. iii. p. 50, pl. 224. figs. A, B (1782).

Amblypterus panopus, Hübner, Verz. bek. Schmett. p. 133. no. 1430 (1816).

Smerinthus? *panopus*, Westwood, Cab. Orient. Ent. p. 13, pl. 6. fig. 2 (1848).

Calymnia panopus, Walker, Lep. Het. viii. p. 124. no. 1 (1856).

Java (*Horsfield*); Ceylon (*Cuming*); North India (*James*).

B.M.

This genus, as shown by Horsfield and Moore's figures of its earlier stages, clearly belongs to the Sphinginæ; in general coloration, however, it is far more like *Ambulyx*.

Genus 22. ELLEMA, Clemens.

Ellema, Clemens, Journ. Acad. Nat. Sci. Phil. 1859, p. 187.

I. ELLEMA CONIFERARUM.

Sphinx coniferarum, Smith & Abbot, Lep. Ins. Georg. p. 81, pl. 41 (1797).

Hyloicus coniferarum, Hübner, Verz. bek. Schmett. p. 139. no. 1484 (1816).

Anceryx coniferarum, Walker, Lep. Het. viii. p. 224. no. 2 (1856).

Sphinx cana, Martyn, Psyche, pl. 19. fig. 1 (1797).

Ellema coniferarum, Grote, Bull. Buff. Soc. Nat. Sci. i. p. 27 (1873).

Georgia (*Abbot*).

B.M.

I am glad to see this species referred by Mr. Grote to *Ellema*, that being unquestionably the true position for it; our example agrees far better with Abbot's figure than with the description of *E. harrisii*; it is certainly *S. cana* of Martyn.

2. ELLEMA HARRISII.

Ellema harrisii, Clemens, Journ. Acad. Nat. Sci. Phil. 1859, p. 188; Lintner, Rep. New-York St. Cab. xxiii. pp. 170, 171, pl. 8. figs. 8-11 (1872).

Ellema (sic) *harrisii*, Walker, Lep. Het. Suppl. i. p. 37 (1864).

Sphinx coniferarum, Harris (nec Sm. & Abb.), Sill. Journ. vol. xxxvi. p. 297 (1839).

Ellema harrisi (sic), Morris, Syn. N.-Am. Lep. Sm. Ins. p. 216 (1862).

"Atlantic District!" (*Grote*).

The larva of this species is described at p. 272 of Packard's 'Guide.'

3. ELLEMA PINEUM.

Ellema pineum, Lintner, Rep. New-York St. Cab. xxiii. p. 169, pl. 8. figs. 12, 13 (1871).

Canada.

The larva of this species is described by Lintner.

Genus 23. LAPARA¹, Walker.

Lapara, Walker, Lep. Het. viii. p. 232. gen. 33 (1856).

LAPARA BOMBYCOIDES.

Lapara bombycoides, Walker, Lep. Het. viii. p. 233. no. 1 (1856).

Canada.

But for Mr. Walker's description of the body of this species as "body rather slender" and "abdomen linear" I should have been inclined to think the species a male *Ellema*; as I have not seen males of that genus it may possibly be so.

Genus HIMANTOIDES, n. gen.

HIMANTOIDES UNDATA.

Perigonia undata, Walker, Lep. Het. viii. p. 103. no. 6 (1856).

Jamaica.

Type, B.M.

¹ See Mr. Grote's remarks in Bull. Buff. Soc. Nat. Sci. i. p. 28 (1873).

The abdomen and secondaries of the type are wanting, so that is impossible to decide positively as to its position; the long whip-like antennæ at once distinguish it from *Perigonia*.

Doubtful SPHINGIDÆ.

Genus ARCTONOTUS¹, Boisduval.

Arctonotus, Boisduval, Ann. Soc. Ent. France, 2^{me} ser. x. p. 319 (1852).

ARCTONOTUS LUCIDUS.

Arctonotus lucidus, Boisduval, Ann. Soc. Ent. France, 2^{me} sér. x. p. 319 (1852).

California.

B.M.

Genus COLAX, Hübner.

Colax, Hübner, Verz. bek. Schmett. p. 141. (1816).

COLAX APULUS.

Sphinx apulus, Cramer, Pap. Exot. i. p. 8, pl. 88. fig. E (1779).

Colax apulus, Hübner, Verz. bek. Schmett. p. 141. no. 1513 (1816).

Smerinthus apulus, Walker, Lep. Het. viii. p. 255. no. 20 (1856).

Surinam.

Allied apparently to nothing else; it is best placed near the *Sphinx australasie* of Donovan, so far as I can judge by Cramer's figure. Mr. Walker suggests its possible affinity to the genus *Calliomma*; but the structure of that genus seems quite distinct. It may perhaps be a *Corymbia* (Noctuidæ).

Genus CLANIS (part.), Hübner.

Clanis (part.), Hübner, Verz. bek. Schmett. p. 138. gen. 4 (1816).

CLANIS ACHEMENIDES.

Sphinx achemenides, Cramer, Pap. Exot. iii. pl. 225. fig. C (1782).

Clanis achemenides, Hübner, Verz. bek. Schmett. p. 138. no. 1482 (1816).

Pachylia achemenides, Walker, Lep. Het. viii. p. 191. no. 4 (1856).

Surinam.

As I have never seen the species figured by Cramer, and as it differs too much from

¹ I would rather see this genus among the *Bombycidae* than in the *Sphingidae*; I believe it has about as much right to be in the latter family as the Geometrine genus *Enochromia*, which has even a more Sphingoid appearance: however, as I am not acquainted with the early stages of *Arctonotus*, I leave it provisionally at the end of the *Sphingidae*.

Pachylia to be referred to that genus, I have preferred to retain Hübner's generic name for it.

Hübner notes three species of *Clanis*. The first, *C. nicobarensis* (Schwarz, Beytr. i. 1), I cannot identify, as I have only been able to obtain the Coleopterous portion of the work in which it is described; and I can find no figure in Roesel that will at all do for the genus.

APPENDIX I.

Genera and Species described as new by Dr. BOISDUVAL *in the Spec. Gén. Léop. Het.*
tome i. *Sphingcs, Sésiiides, Castniides*, plates 1-11.

Genus METAMIMAS, Butler.

Brachyglossa banksia, Boisd. p. 11.

Smerinthus meander, Boisd. p. 22, pl. 4. fig. 1, will come next to *M. amboinicus*.

Genus METAGASTES, Boisd. p. 11 = *Basiana*.

Genus NYCERYX, Boisd. p. 16: type *Ambulyx hyposticta*, Felder.

Genus TRIPTOGON, Bremer.

Smerinthus echephon, Boisd. p. 21. no. 6, pl. 3. fig. 3, allied to *T. sinensis*.

— *indicus*, Boisd. p. 45. no. 36 = *S. indicus*, Walker, Lep. Het.

? Genus POLYPTYCHUS, Hübner.

Smerinthus adansonis, Boisd. p. 27. no. 15, seems allied to *P. andosa*.

Genus DAPHNUSA, Walker.

Smerinthus ailanti, Boisd. p. 28. no. 16, pl. 3. fig. 2, closely allied to *D. ocellaris*.

Genus PAONIAS, Hübner.

Smerinthus oculata, Boisd. p. 29. no. 17, allied to *P. myops*.

— *saliceti*, Boisd. p. 35. no. 24.

? Genus AMBULYX, Walker (*cf.* p. 360).

Smerinthus pseudambulyx, p. 29. no. 18.

Genus BASIANA, Walker.

Smerinthus pudorinus, Boisd. p. 46. no. 37, = *S. pudorinus*, Walker.

Genus LEUCOPHLEBIA, Westwood.

Leucophlebia luxeri, Boisd. p. 55. no. 1, = *L. lineata*, Westwood.

Genus MEGANOTON, Boisd., = *Pseudosphinx*.

Genus AMPHONYX, Poey.

Amphonyx beelzebuth, Boisd. p. 63. no. 2, allied to *A. duponchelii*.

— *godartii*, Boisd. p. 65. no. 4, pl. 5. fig. 1, near *A. duponchelii*.

— *walkeri*, Boisd. p. 67. no. 7, near *A. cluentius*.

Genus PROTOPARCE, Burmeister.

Sphinx lycopersici, Boisd. p. 71. no. 2, near *P. carolina*.

— *petuniæ*, Boisd. p. 73. no. 5, pl. 5. fig. 2, close to *P. diffissa*.

— *nicotiana*, Boisd. p. 75. no. 7, = ? *P. carolina*, var.

— *tabaci*, Boisd. p. 78. no. 10, near *P. lucetius*.

— *astaroth*, Boisd. p. 86. no. 20, near *P. solani*.

Genus MACROSILO, Walker.

Sphinx hamilear, Boisd. p. 79. no. 12.

Genus SPHINX, Linnæus.

Sphinx capsici, Boisd. p. 80. no. 14, close to *S. pellenia*.

— *canadensis*, Boisd. p. 93. no. 29, = ? *Sphinx leucophæata*.

Genus HYLOICUS, Hübner.

Sphinx strobi, figured pl. 5. fig. 3.

— *cupressi*, Boisd. p. 102. no. 41, pl. 2. figs. 3-5.

Genus PSEUDOSPHINX, Burmeister.

Sphinx catalpæ, Boisd. p. 103. no. 42, pl. 2. figs. 1, 2.

Genus DILUDIA, Grote.

Sphinx abietina, Boisd. p. 108. no. 47, = *D. vates* (northern type).

I think the above may be distinct from the pale and less-marked species of southern India.

Genus ISOGNATHUS, Felder.

Anceryx cahuchu, Boisd. p. 122. no. 4, = ? *I. metascyron*.

— *pedilanthi*, Boisd. p. 124. no. 6, pl. 7, fig. 1, near the preceding.

— *menechus*, Boisd. p. 124. no. 7, = ? *I. scyron*.

— *papayæ*, Boisd. p. 126. no. 10, near *I. amazonica*.

Anceryx pelops, Boisd. p. 126. no. 11, allied to the preceding.
 — *excelsior*, Boisd. p. 127. no. 12, near *I. fumosa*.

Genus DILOPHONOTA, Burmeister.

Anceryx lassauvii, Boisd. p. 129. no. 14, very distinct, secondaries black.
 — *janiphæ*, Boisd. p. 131. no. 17, =? *D. omphaleæ* ♀.

Genus NEPHELE, Hübner.

Zonilia zebu, Boisd. p. 148. no. 16, = *Z. æquivalens*, Walker.
 — *rhadama*, Boisd. p. 146. no. 13, pl. 6. fig. 1, close to *N. penus*.

Genus MADORYX, Boisd. p. 150, = *Hemeroplanes*.

Madoryx lynceus, Boisd. p. 151. no. 2, near *H. oiclus*.
 — *deborrei*, Boisd. p. 155. no. 6, near *H. triptolemus*.

Genus CALLIOMMA, Walker (see *Eucheryx*).

Madoryx faunus, Boisd. p. 153. no. 4, near *C. plato*.

Genus DEILEPHILA, Ochsenheimer.

Deilephila celeno, Boisd. p. 170. no. 13, = *D. spinifascia*.
 — *lathyrus*, Boisd. figured pl. 6. fig. 2.

Genus ELIBIA, Walker.

Elibia linigera, Boisd. p. 180. no. 4, near *E. dolichoides*.

Genus AMBULYX, Walker.

Ambulyx palmeri, Boisd. p. 181. no. 1, pl. 4. fig. 3, near *A. marginata*.
 — *crethon*, Boisd. p. 182. no. 2, *A. gannascus* group.
 — *astygonus*, Boisd. p. 188. no. 10, allied to *A. eurycles*.
 — *coquerelii*, Boisd. p. 191. no. 14, pl. 4. fig. 2, Indian group.
 — *lycidas*, Boisd. p. 191. no. 15, *A. strigilis* group.

Genus PHILAMPELUS, Harris.

Philampelus capronnieri, Boisd. p. 194. no. 3, pl. 7. fig. 2, unites the *P. satellitia* and *P. megæra* groups.
 — *pistacina*, Boisd. p. 199. no. 8, possibly a different genus.

Genus ALEURON, Boisduval.

Aleuron pudens, Boisd. p. 207. no. 5, near *A. smerinthoides*.

Genus GONENYO, Butler.

Aleuron orophilus, Boisd. p. 205. no. 1, ? var. of *G. carinata*.

Genus *EVERYX*, Boisd. p. 208, = *Otus*, Hübner,
Everyx astyaenor, Boisd. p. 211. no. 3, near *O. myron*.

Genus *EUCHLORON*, Boisd. p. 213, = *Argeus*, Hübner.

Genus *ACOSMERYX*, Boisd. p. 214.

Acosmeryx anceoides, Boisd. p. 216. no. 2, = *A. sericeus*.

— *shervilii*, Boisd. p. 217. no. 4, = ? *A. cinerea*.

— *daulis*, Boisd. p. 218. no. 5, = ? *P. miskini*.

— *socrates*, Boisd. p. 219. no. 6.

Genus *EUCHERYX*, Boisd., = *Calliomma*.

Eucheryx licastus, figured pl. 6. fig. 3.

— *nomius*, Boisd. p. 221. no. 2, = *Calliomma nomius*, Walker.

— *depuiseti*, Boisd. p. 222. no. 4, ? near *C. thorates*.

Genus *DAPHNIS*, Hübner.

Chærocampa hesperus, Boisd. p. 228. no. 5, near *D. pallescens*.

Genus *CHÆROCAMPA*, Duponchel.

Chærocampa echeclus, Boisd. p. 233. no. 10, = probably *C. elegans*.

— *kotschyi*, Kollar, p. 234. no. 11, ? a faded *C. alecto*.

— *geryon*, Boisd. p. 241. no. 21, pl. 7. fig. 3, near *C. celæno*.

— *epicles*, Boisd. p. 244. no. 23, = *C. gordius*.

— *yorkii*, Boisd. p. 248. no. 28, said to be described from a unique example (allied to *C. oldenlandiæ*) in the British-Museum collection from Cape York ; but as we have only one Australian species of that group (not registered Cape York), which has been unique in the collection since 1857, and as the only other Australian species, unique only between 1847 and 1848, is registered "Sidney," *C. yorkii* may be considered a fictitious species: its description agrees with nothing that I ever saw ; and I am inclined to think that it is some half-described insect with a wrong locality.

— *rhesus*, Boisd. p. 254. no. 36, = ? *C. cyrcne* (olivaceous type).

— *jugurtha*, Boisd. p. 256. no. 39, *C. clotho* group.

— *pollux*, Boisd. p. 261. no. 47, near *C. nessus*.

— *tyndarus*, Boisd. p. 264. no. 51, pl. 4. fig. 5, *C. amadis* group.

— *alcides*, Boisd. p. 266. no. 54, = *C. anubus* (bright examples).

— *epaphus*, Boisd. p. 267. no. 56, near *C. chiron*.

— *druryi*, Boisd. p. 267. no. 57, = *C. chiron*, var.

— *cumedon*, Boisd. p. 272. no. 64, *C. crotonis* group.

— *isaon*, Boisd. p. 272. no. 65, *C. crotonis* group.

Chærocampa maculator, Boisd. p. 274. no. 67, close to *C. amadis*.

—— *aglaor*, Boisd. p. 275. no. 70, close to *C. falco*.

Genus PANACRA, Walker.

Panacra tiridates, Boisd. p. 286. no. 3, pl. 7. fig. 4, near *P. truncata*.

Genus TEMNORA, Walker.

Temnora natalii, Boisd. p. 290. no. 2, = *T. natalis*, Walker.

—— *rhadamistus*, Fabr. figured pl. 9. fig. 1.

Genus UNZELA, Walker.

Tylognathus emus, Boisd. p. 294. no. 2.

Genus TYLOGNATHUS, Felder.

Tylognathus ypanemæ, Boisd. p. 295. no. 4.

Genus EPISTOR, Boisd. p. 296, = *Enyo*.

Epistor luctuosus, Boisd. p. 298. no. 2, = *E. lugubris* (slight variety).

Genus TRICHOLON, Boisd. p. 301, = *Deidamia*.

Genus OCTON, Boisd. p. 303, = *Diodosida*.

Ocyton tyrrhus, Boisd. p. 303. no. 1, = *D. murina*, Walker.

Genus ASPLEDON, Boisd. p. 305, = *Lophura* (part.).

Aspledon dorus, Boisd. p. 305. no. 1, = *Lophura nana*.

—— *brisæus*, Boisd. p. 306. no. 3, = *L. pylas* of Cramer.

Genus LOPHURA, Walker.

Lophura pumilio, Boisd. p. 311. no. 2, close to *L. pusilla*.

Genus PTEROGON, Boisd. p. 311, = *Proserpinus* and *Lophura* (part.).

Pterogon pumilum, Boisd. p. 312. no. 2, a species of *Lophura*.

—— *nanum*, Boisd. p. 314. no. 4, pl. 9. fig. 2, = *Lophura nana*, Walker.

Genus POGOCOLON, Boisd. p. 314, = *Proserpinus* and *Amphion*.

Genus ANGONYX, Boisd. p. 317, = *Panacra* (part.).

Angonyx emilia, Boisd. p. 318, pl. 8. fig. 1 (*P. testacea* group).

The *P. testacea* group of *Panacra* may perhaps be separated with advantage: they certainly have a somewhat different outline from the typical species; and the coloration is very dissimilar.

Genus CAUTETHIA, Grote.

Ænosanda spuria, Boisd. p. 319. no. 2.

Genus PACHYGONIA, Felder.

Perigonia coffeæ, Boisd. (nec Walker), pl. 8. fig. 4, being a new species, may be named *Pachygonia boissduvalii* (from New Freiburg).

— *nictitans*, Boisd. p. 322. no. 4, near to *P. coffeæ*, Walker. It is just possible that this may be *P. coffeæ*; the description, however, hardly agrees with it.

Genus PERIGONIA, Herrich-Schäffer.

Perigonia nephus, Boisd. p. 323. no. 5, near *P. lusca*.

— *iloides*, Boisd. p. 327. no. 11, = *P. lefebvrei*.

Genus MACROGLOSSA, Ochsenheimer.

Macroglossa bombylans, Boisd. p. 334. no. 2, = ¹*M. walkeri*, Butler, M.S.

— *avicula*, Boisd. p. 334. no. 3, = *M. obscuripennis*.

— *regulus*, Boisd. p. 335. no. 5, near *M. gyrans*.

— *zena*, Boisd. p. 337. no. 9, = *M. belis*, var.

— *pyrrhula*, Boisd. p. 338. no. 10, = *M. belis*, typical.

— *sinica* (sic), Boisd. p. 340. no. 12.

— *aquila*, Boisd. p. 340. no. 13, near *M. proxima*.

— *bengalensis*, Boisd. p. 341. no. 14, near *M. divergens*.

— *sitiens*, Boisd. p. 343. no. 18, = *M. sitiene*, Walker.

— *troglydytus*, Boisd. p. 344. no. 19, = ? *M. belis*, dwarfed. We have one example of this form from North India; it may be distinct.

— *tinnunculus*, Boisd. p. 344. no. 20, ? near *M. imperator*.

— *opis*, Boisd. p. 345. no. 21, = *M. belis*.

— *phlegeton*, Boisd. p. 346. no. 22, close to *M. alcedo*.

— *hirundo*, Boisd. p. 346. no. 23, pl. 9. fig. 4, near *M. divergens*.

— *motacilla*, Boisd. p. 347. no. 25, = *M. alcedo*, var.

— *sturnus*, Boisd. p. 349. no. 28, = *M. passalus*.

— *sylvia*, Boisd. p. 350. no. 29, allied to *M. faro*.

— *cyniris*, Boisd. p. 350. no. 30, probably large race of *M. alcedo*.

— *mitchellii*, Boisd. p. 351. no. 31, pl. 8. fig. 5, near *M. imperator*.

— *fringilla*, Boisd. p. 352. no. 33, near *M. errans*.

— *heliophila*, Boisd. p. 354. no. 36, pl. 11. fig. 2, near *M. sitiene*.

¹ I am obliged to mention this to explain a note in P. Z. S. 1875.

Genus AËLLOPUS, Hübner.

Macroglossa westermanni, Boisd. p. 355. no. 38.— *adon*, Boisd. p. 357. no. 40, pl. 11. fig. 1.

Genus HEMARIS, Dalman.

Macroglossa etolus, Boisd. p. 370. no. 59, near *H. thysbe*.— *pyramus*, Boisd. p. 372. no. 62, near *H. ruficaudis*.— *curtisii*, Boisd. p. 374. no. 67, =? *H. saundersii*, Walker.

There is no *Hemaris* in the British Museum from Silhet; and the only species from North India is *H. saundersii*.

Section CEPHONODES, Hübner.

Macroglossa confinis, Boisd. p. 376. no. 6, = *H. hylas*.— *yunx*, Boisd. p. 376. no. 7, pl. 9. fig. 5, = *H. hylas*.

Genus SATASPES, Moore.

Sataspes infernalis, Boisd. (nec Westwood), pl. 10. figs. 1, 2, = *S. uniformis*, var.— *tagalica*, Boisd. p. 378. no. 2, pl. 10. figs. 3, 4, = *S. ventralis*.*Appendix of additions to the Family collated since the reading of this paper.*

Subfamily MACROGLOSSINÆ.

Genus LEPISIESIA, Grote.

LEPISIESIA FLAVOFASCIATA.

Macroglossa flavofasciata, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 4 (1876).

LEPISIESIA VICTORIA.

Said to be identical with *Pterogon clarkie* of Boisduval; see Bull. Buff. Soc. ii. p. 225.

Genus HEMARIS, Dalman.

HEMARIS ÆTHRA.

Macroglossa æthra, Strecker, Lep. Rhop. and Het. i. p. 107 (1875); pl. xiii. fig. 2 (1876).

— ?

HEMARIS FUMOSA.

Macroglossa fumosa, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 3 (1876).

HEMARIS RUBENS.

Hemaris rubens, H. Edwards, Proc. Cal. Acad. Sci. 1875, p. 2.

Oregon.

HEMARIS CYNÖGLOSSUM.

Hemaris cynoglossum, H. Edwards, Proc. Cal. Acad. Sci. 1875, p. 3.

Napa and Calaveras counties, and Vancouver Island.

Section HEMORRHAGIA, Grote.

HEMARIS RUFICAUDIS (synonym).

Macroglossa ruficaudis, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 1 (1876).

Genus MACROGLOSSA, Ochsenheimer.

MACROGLOSSA OBSCURICEPS.

Macroglossa obscuriceps, Butler, P. Z. S. 1876, p. 309. no. 3, pl. xxii. fig. 5.

Ayerpanas, Malacca.

Coll. Capt. Roberts.

MACROGLOSSA LEPCHA, n. sp.

Allied to *M. obscuriceps*, from which it differs in having the head and thorax olive-green; the black band across the abdomen feebly developed; the primaries narrower; the central greyish band (which is scarcely distinguishable in *M. obscuriceps*) quite obsolete, the subbasal lines bounding it internally, converted into a black band, which is broad on the inner margin, and tapers towards the costa; wings below with the transverse lines less distinctly marked; the internal orange area brighter. Expanse of wings 2 inches.

Calcutta (*Atkinson*).

Coll. Dr. O. Staudinger.

This species is also allied (but less closely) to *M. avicula* and *M. bombylans*. Mr F. Moore has generously permitted me to describe the Sphingidæ recently forwarded to him by Dr. Staudinger, and forming part of the late Mr. Atkinson's collection.

Genus PACHYGONIA, Felder.

PACHYGONIA HOPFFERI.

Pachygonia hopfferi, Staudinger, Verh. zool.-botan. Gesellsch. Wien, 1875, p. 118.

Chiriqui.

May not this be a form of *P. caliginosa*?

Genus DEIDAMIA, Clemens.

DEIDAMIA INSCRIPTA.

Pterogon inscriptum, Strecker, Lep. Rhop. and Het. pl. xiii. fig. 8 (1876).

This is not Cramer's *S. japia*, if Mr. Strecker's figure is correct (see p. 535).

Genus PROSERPINUS, Hübner.

PROSERPINUS ÆNOTHEROIDES.

Proserpinus ænoteroides, Butler, P. Z. S. 1875, p. 621.

Brazil.

Type, B.M.

PROSERPINUS CLARKIÆ.

Pterogon clarkiae, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 5 (1876).

PROSERPINUS JUANITA.

Pterogon juanita, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 6 (1876).

PROSERPINUS TERLOOI.

Proserpinus terlooi, H. Edwards, Proc. Cal. Acad. Sci. 1875, p. 4.

Mexico.

Genus EUPROSERPINUS, Grote.

Euproserpinus phaëton of Grote is said to be identical with *Macroglossa erato* of Boisduval; see H. Edwards in Proc. Cal. Acad. Sci. 1875, p. 3.

Genus LOPHURA, Walker.

LOPHURA HIMACHALA.

Lophura himachala, Butler, P. Z. S. 1875, p. 621.

North-east Himalayas (*Farr*).

Coll. F. Moore.

LOPHURA SANGAICA.

Lophura sangaica, Butler, P. Z. S. 1875, p. 621.

Shanghai.

Coll. F. Moore.

LOPHURA EREBINA.

Lophura erebina, Butler, P. Z. S. 1875, p. 621.

North-west India.

Coll. F. Moore.

LOPHURA MINIMA.

Lophura minima, Butler, P. Z. S. 1876, p. 310. no. 4, pl. xxii. fig. 2.

Ayerpanas, Malacca.

Coll. Capt. Roberts.

Subfamily CHÆROCAMPINÆ.

Genus ELIBIA, Walker.

ELIBIA VERSICOLOR.

Darapsa versicolor, Strecker, Lep. Rhop. and. Het. i. pl. xiii. fig. 9 (1876).

It is evident from Strecker's figure, that this species has been erroneously referred to the allied genus *Otus*; see p. 546.

Genus PERGESA, Walker.

PERGESA MONGOLIANA. (Plate XCI. figs. 14, 15.)

Pergesa mongoliana, Butler, P. Z. S. 1875, p. 622.

Nankow Pass (*Swinhoe*).

Type, B.M.

Genus PANACRA, Walker.

PANACRA PERFECTA.

Panacra perfecta, Butler, P. Z. S. 1875, p. 391.

Darjeeling (*Sadler*).

Type, B.M.

Genus DIODOSIDA, Walker.

DIODOSIDA PECKOVERI, n. sp.

Nearly allied to *D. fumosa*, altogether darker; the wings much more purple in tint; the bands of primaries more regular; body uniform greyish olive, abdomen not ochreous at the sides; antennæ ferruginous. Expanse of wings 2 inches 4 lines.

Madagascar (*Kingdon*).

Type, B.M.

Presented by Miss Algerina Peckover.

Genus CHÆROCAMPA, Duponchel.

CHÆROCAMPA PRUNOSA.

Chærocampa prunosa, Butler, P. Z. S. 1875, p. 622.

Ceylon (*Skinner*).

Coll. F. Moore.

CHÆROCAMPA PUELLARIS.

Chærocampa puellaris, Butler, P. Z. S. 1875, p. 623.Rawul Pindi (*Hellard*).

Coll. F. Moore.

CHÆROCAMPA INTERSECTA.

Chærocampa intersecta, Butler, P. Z. S. 1875, p. 623.Queensland (*Janson*).

Type, B.M.

CHÆROCAMPA PROCNE (synonym).

Chærocampa procne, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 10 (1876)."South California" (*Strecker*).It is much more probable that this is an Asiatic species allied to *C. lucasii*.

CHÆROCAMPA DESERTA, n. sp.

Sandy brown: primaries with two ill-defined oblique brown lines, the first proceeding from the internal nervure just before the middle to the apical fourth of costal nervure, the second parallel to and about two lines in advance of the first, proceeding almost to apex, and dotted with darker brown upon the nervures; a very indistinct brownish nebula upon the median interspaces just beyond the middle; a small blackish spot on the lower discocellular; outer area sparsely irrorated with brown scales; fringe dark brown, excepting at external angle: secondaries smoky brown; costa, anal area, and fringe, excepting at the anal angle (where it is white), sandy brown: body sandy brown, becoming smoky in front, sides of abdomen and head paler; sides of collar, outer border of tegulæ, legs and antennæ above, whitish. Primaries below with internodiscoidal area dusky; a large diffused smoky brown patch from the end of the cell to the inner margin; disk sparsely irrorated with dark brown, three decreasing spots of the same colour parallel to the outer margin upon the veins towards costa: secondaries below sandy; costal and external areas dotted with brown; a discal series of seven brown dots parallel to the outer margin: body below sandy whitish; antennæ below reddish. Expanse of wings 3 inches 4 lines.

Hunter River, Australia (*W. Scott*).

Coll. O. Staudinger.

This species was in Mr. Atkinson's collection.

Genus DEILEPHILA, Ochsenheimer.

DEILEPHILA EUPHORBIARUM = *D. spinifascia*.*Sphinx euphorbiarum*, Boisduval, in Guérin and Percheron's Insectes, 2^e Liv. 8, pl. 3 (1835).

I have to thank Mr. Kirby for a reference to this species, which has not only been overlooked by all subsequent authors, but by Dr. Boisduval himself in his monograph of the family.

Subfamily AMBULICINÆ.

Genus AMBULYX, Walker.

AMBULYX FLORALIS, n. sp.

Allied to *A. superba*, but smaller, and clouded with bronze and green.

♂ shining bronzy clay-colour: primaries with the apical half of costal area, the central and internodiscal areas washed with green; subbasal area dusky olivaceous, limited externally by an oblique olive line, a second parallel line crossing the wing over the base of the first median branch; three ill-defined oblique waved lines, the outermost, undulated, crossing the disk; between the second and third a very indistinct diffused sinuous line; inner margin and the lines as they approach it blackish; a white-pupilled rounded black spot on the lower discocellular; a tuft of rose-red hairs at the base of inner margin: secondaries with the basal two thirds rose-red; costal area whitish; external third washed with green, especially towards apex, brownish towards the anal border; fringe for the most part white: head and collar brown, tegulæ and abdomen washed with green; antennæ testaceous, pectinations brown; anterior tibiæ and tarsi above brown. Wings below much paler, testaceous, washed with pale green: primaries with the internodiscoidal area rose-red; costal area greenish; a transverse brown litura beyond the cell; a transverse oblique, nearly straight white-bordered olive discal line; a zigzag line nearer to the outer margin, becoming black towards inner margin; a submarginal series of spots, only distinct and blackish at the external angle: secondaries crossed by three parallel white-bordered olive lines; a squamose brown submarginal spot near anal angle: body below whity brown; palpi, pectus, and legs slightly dusky. Expanse of wings 3 inches 8 lines.

♀ much larger, altogether less lively in colour, the green colouring less perceptible. Expanse of wings 4 inches 11 lines.

Darjeeling (*Atkinson*).

Coll. O. Staudinger.

One of the handsomest species in the genus.

Subfamily SMERINTHINÆ.

Genus LEUCOPHLEBIA, Westwood.

LEUCOPHLEBIA DAMASCENA.

Leucophlebia damascena, Butler, P. Z. S. 1875, p. 392.

Sikkim (*Whitely*).

Type, B.M.

VOL. IX.—PART X. No. 17.—November, 1876.

4 Q

Genus BASIANA, Walker.

BASIANA PHALARIS.

♂, *Sphinx nicobarensis*, Charpentier, ed. Esper's Ausl. Schmett. SpHING. tab. 1. fig. 1 (1830).

The publication of a plate of SpHINGIDÆ, as also of a plate of Charideinæ and Ctenuchiinæ in the above edition of Esper's work has hitherto been overlooked; as usual, we have to thank Mr. Kirby for calling attention to the fact.

Genus DAPHNUSA, Walker.

DAPHNUSA PORPHYRIA, n. sp.

Primaries reddish brown, the basal area transversely marked with an irregularly arched whitish line, external area rather darker, marked from near external angle to a little below apical angle by a diffused whitish curved streak; a subapical sepia-brown excavated quadrangular patch; apex grey, with a large semicircular sepia-brown spot bordered externally by a white lunule on the outer margin; a broad central red-brown band (bordered on each side by a whitish streak, its outer line angular), much broader in front than behind, transversely clouded with grey, its outer third beyond the discoidal cell darker; the base of second median interspace and the discocellulars blackish piceous; two dissimilar whitish-edged black spots on the veins near external angle: secondaries pale brown, with two very indistinct discal streaks, clearly discernible upon the abdominal area; outer border rather broadly smoky brown; costa whitish; anal angle marked with a greyish and ferruginous dash, upon which is a black spot; a nearly marginal grey line: body pale brown, varied with dark brown; a black spot on the crest of the head. Primaries below greyish brown; apical half of costa and internal area pale greyish; apical markings as above, but redder: secondaries pale rosy greyish, paler on the abdominal area; three angulated ferruginous diffused discal lines; outer border rather broadly pale ferruginous, fringe dark piceous: body below pale reddish brown; palpi chocolate-brown. Expanse of wings 2 inches 3 lines.

Darjeeling (*coll. Atkinson*).

In coll. O. Staudinger.

Allied to *D. colligata*.

Genus MIMAS, Hübner.

MIMAS TERRANEA.

Mimas terranea, Butler, P. Z. S. 1876, p. 310. no. 5, pl. xxii. fig. 3.

Ayerpanas, Malacca.

Coll. Capt. Roberts.

Subfamily SPHINGINÆ.

Genus DILUDIA, Grote.

DILUDIA JASMINEARUM.

Sphinx jasminearum, Strecker, Lep. Rhop. and Hct. i. pl. xiii. fig. 14 (1876).

Judging by the figure, Boisduval's species is referable to this genus.

DILUDIA TRANQUILLARIS, n. sp.

♀. Nearly allied to *D. grandis*, slightly smaller, the markings much less strongly defined, the central irregular transverse congregation of parallel bands broader; black band only visible on costal area; the apical patch more uniformly dark grey, much narrower and longer, oblique behind, more narrowly black-bordered; secondaries with only one abbreviated black zigzag band across the grey anal patch; body slightly browner in tint; head not varied with white; abdomen with lateral diffused brown longitudinal bands instead of the black spots; wings below more uniform in colour, the transverse bands less strongly marked, narrower, and nearer to the outer border, the central blackish band of primaries obsolete. Expanse of wings 5 inches 3 lines.

Darjeeling (*Atkinson*).

Coll. O. Staudinger.

At first I was inclined to think this might be the female of *D. grandis*; but a comparison of the sexes of allied species convinces me that the differences are too great to admit of this.

APOCALYPSIS, n. gen.

Allied to *Euryglottis*; similar in pattern, but at once to be distinguished by the much smoother thorax, shorter and more slender antennæ, more prominent and less crested head. Type:—

A. VELOX, n. sp.

Primaries long and pointed, sepia-brown, with the veins, a chain-like discal excavated transverse band, and some oblique lines connecting its outer border with the apices of the radial veins pale brown; an oblique white streak from the apex to the upper radial; secondaries smoky brown, the costal and abdominal areas paler; a basal hairy patch, two diffused abbreviated bands (distinct towards abdominal area), and a broad outer border (darkest at anal angle) deep brown; margin blackish, the fringe and a diffused narrower streak at anal angle white; body smoky brown, head and collar darker; a central longitudinal streak, the borders of the thorax, and a series of lateral abdominal transverse bands black-brown; lateral margins of head, fringe of tegulæ, back of thorax, and front margins of the abdominal segments white; antennæ whitish, with testaceous serrations. Wings below smoky brown: primaries with the internal area whitish; base of discoidal cell testaceous; a white apical streak, less distinct than above; secondaries with the base and abdominal area whitish; two diffused ill-defined transverse bars; margin as above; body below smoky brown; palpi, sides and hinder part of pectus, and centre of venter white. Expanse of wings 6 inches 2 lines.

Darjeeling (*Atkinson*).

Coll. O. Staudinger.

The anterior wings of this species are coloured almost exactly as in *E. aper* from Bogota.

Genus SPHINX, Linnæus.

SPHINX LUGENS.

Sphinx lugens, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 12 (1876).

SPHINX PLOTA.

Sphinx plota, Strecker, Lep. Rhop. and Het. i. p. 106 (1875); pl. xiii. fig. 13 (1876).

Canada, Cincinnati.

Section LETHIA, Hübner.

SPHINX LUSCITOSA.

Sphinx luscitosa, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 11 (1876).

There seems to be no doubt that this is a *Lethia*, as determined by Mr. Grote.

Genus HYLOICUS, Hübner.

HYLOICUS CONIFERARUM.

Sphinx coniferarum, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 15 (1876).

HYLOICUS HARRISII.

Sphinx harrisii, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 16 (1876).

HYLOICUS SEQUOIÆ.

Sphinx sequoiæ, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 17 (1876).

HYLOICUS SANIPTRI.

Sphinx saniptri, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 18 (1876).

Canada and Philadelphia.

I have to thank Mr. Kirby for lending me Mr. Strecker's work, and the author of it for his excellent figures, which have enabled me to refer the above species to their correct genera.

Genus NEPHELE, Hübner.

NEPHELE HESPERA.

Sphinx quaterna, Charpentier, ed. Esper's Ausl. Schmett. Sphing. tab. i. fig. 2 (1830).

Genus ARCTONOTUS, Boisduval.

ARCTONOTUS LUCIDUS.

Arctonotus lucidus, Strecker, Lep. Rhop. and Het. i. pl. xiii. fig. 7 (1876).

DESCRIPTION OF PLATES.

PLATE XC.

- Figs. 1-3. Larvæ and pupa of *Lophura hyas*, Walker, p. 538.
 Figs. 4, 5. Larva and pupa of *Hemaris hylas*, Linn., p. 522.
 Figs. 6, 7. Larva and pupa of *Macroglossa belis*, Cramer, p. 526.
 Fig. 8. Larva (feeding on *Pæderia fœtida*) of *Macroglossa pyrrhosticta*, Butler, p. 527.
 Figs. 9, 10. Larva and pupa of *Macroglossa gilia*, Herr.-Sch., p. 527.
 Figs. 11, 12. Larva and pupa of *Acosmeryx anceus*, Cramer, p. 544.
 Figs. 13-15. Larvæ and pupa of *Chærocampa lewisii*, Butler, p. 554.
 Fig. 16. Larva of *Smerinthus tatarinovii*, Ménétériés, p. 593.

PLATE XCI.

- Fig. 1. Larva of *Chærocampa oldenlandiæ*, Fabricius, p. 559.
 Figs. 2, 3. Larva and pupa of *Ambulyx liturata*, Butler, p. 580.
 Figs. 4, 5. Larva and pupa of *Ampelophaga rubiginosa*, Ménétériés, p. 546.
 Fig. 6. Larva of *Triptogon roseipennis*, Butler, p. 588.
 Figs. 7-9. Larvæ and pupa of *Chærocampa japonica*, Boisduval, p. 560.
 Fig. 10. Larva of *Polyptychus dentatus*, Cramer, p. 583.
 Figs. 11-13. Larvæ and pupa of *Pseudosphinx cyrtolophia*, Butler, p. 611.
 Figs. 14, 15. Larva and pupa of *Pergesa mongoliana*, Butler, p. 637.
 Figs. 16, 17. Larva and pupa of *Protoparce orientalis*, Butler, p. 609.
 Figs. 18, 19. Larva and pupa of *Diludia vates*, Butler, p. 616.
 Figs. 20, 21. Larva and pupa of *Nephele hespera*, Fabricius, p. 624.

PLATE XCII.

- Fig. 1. *Chærocampa mirabilis*, Butler, p. 554.
 Fig. 2. *Pergesa ægrota*, Butler, p. 549.
 Fig. 3. *Pergesa gloriosa*, Butler, p. 549.
 Fig. 4. *Panacra regularis*, Butler, p. 551.
 Fig. 5. *Daphnis minima*, Butler, p. 573.
 Fig. 6. *Pseudosphinx cyrtolophia*, Butler, p. 611.
 Fig. 7. *Panacra ella*, Butler, p. 550.
 Fig. 8. Larva and pupa of *Chærocampa silhetensis*, Walker, p. 560.
 Fig. 9. Larva of *Acherontia morta*, Hübner, p. 598.
 Fig. 10. Larva and pupa of *Acherontia medusa*, Butler, p. 597.
 Fig. 11. Larva of *Smerinthus planus*, Walker, p. 593.

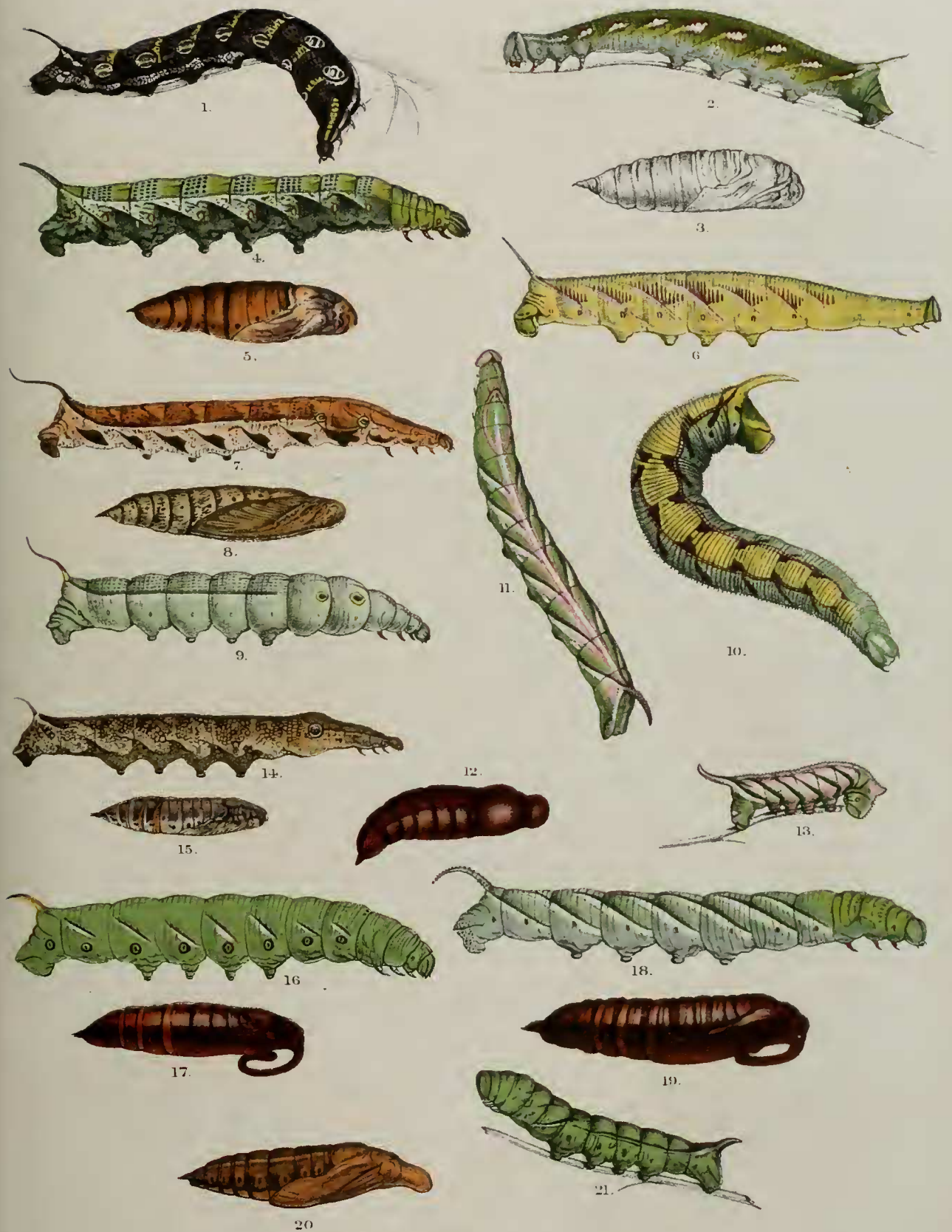
PLATE XCIII.

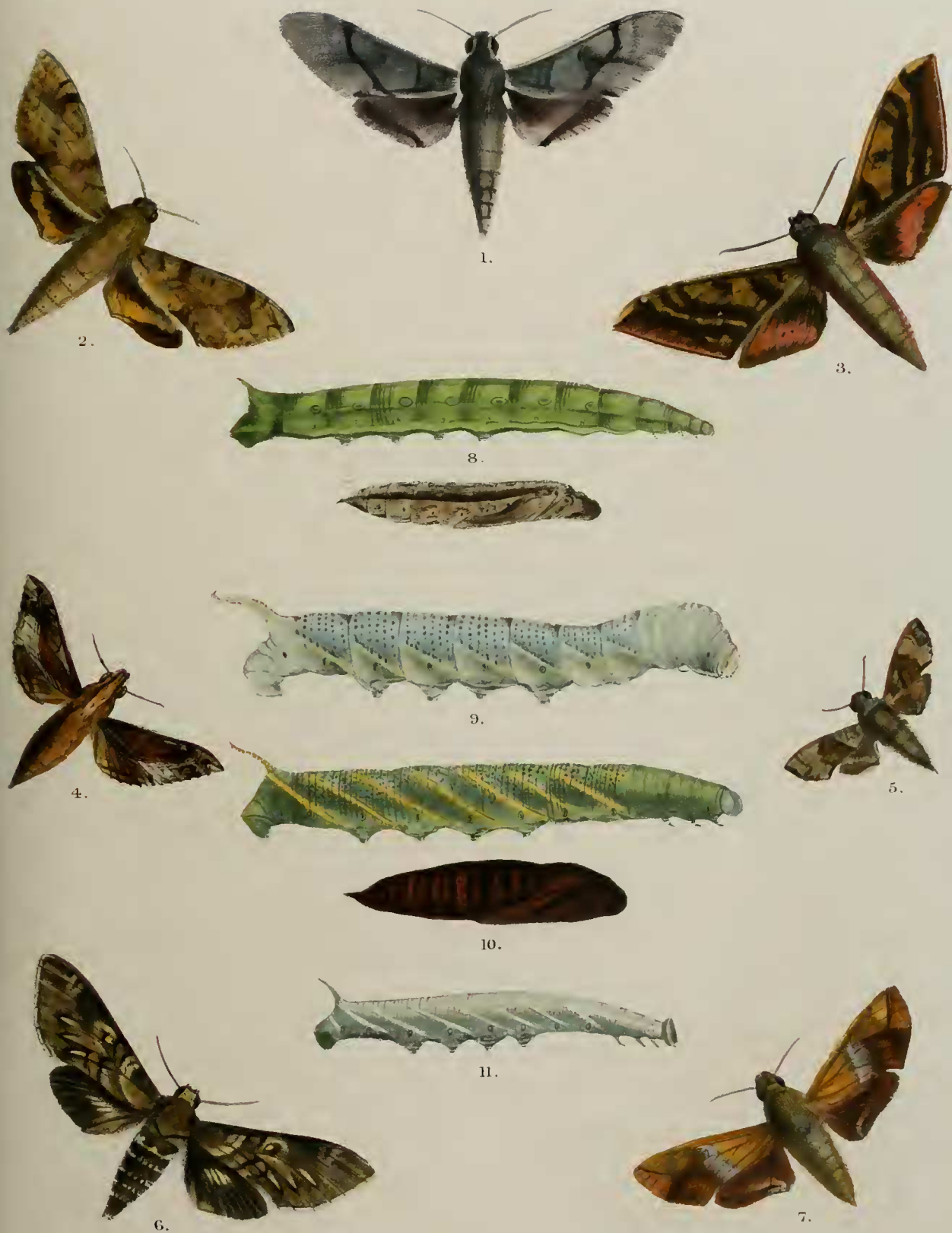
- Fig. 1. *Triptogon spectabilis*, Butler, p. 588.
Fig. 2. *Triptogon fuscescens*, Butler, p. 587.
Fig. 3. *Triptogon oriens*, Butler, p. 587.
Fig. 4. *Basiana exusta*, Butler, p. 595.
Fig. 5. *Triptogon massurensis*, Butler, p. 587.
Fig. 6. *Triptogon albicans*, Butler, p. 586.
Fig. 7. *Ambulyx turbata*, Butler, p. 580.
Fig. 8. *Ambulyx rhodoptera*, Butler, p. 580.
Fig. 9. *Ambulyx lahora*, Butler, p. 580.

PLATE XCIV.

- Fig. 1. *Charocampa docilis*, Butler, p. 564.
Fig. 2. *Charocampa virescens*, Butler, p. 563.
Fig. 3. *Nephele rosæ*, Butler, p. 622.
Fig. 4. *Diludia melanomera*, Butler, p. 615.
Fig. 5. *Diludia natalensis*, Butler, p. 616.
Fig. 6. *Amphonyx rivularis*, Butler, p. 599.
Fig. 7. *Isognathus metascyron*, Butler, p. 602.
Fig. 8. *Isognathus amazonicus*, Butler, p. 601.

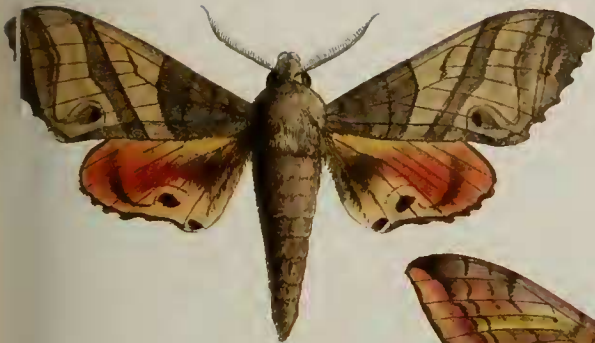








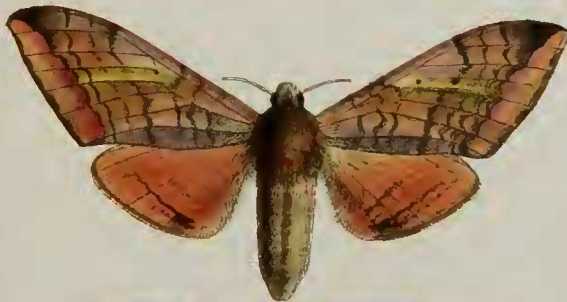
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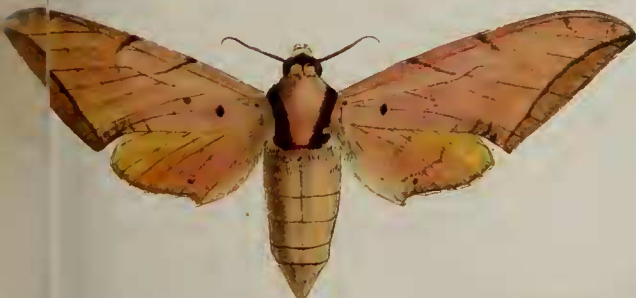
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